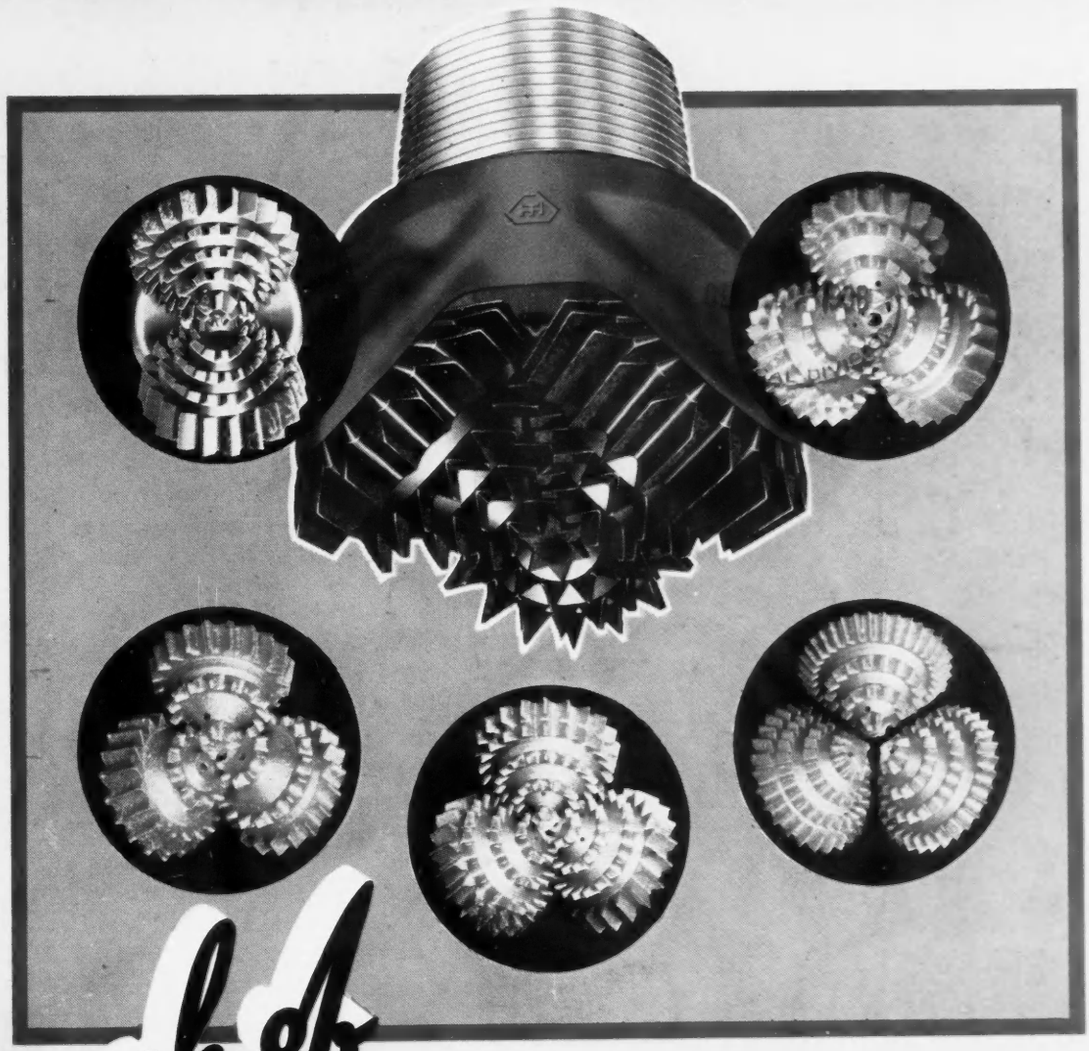
15¢

The OIL WEEKLY

OIL and GAS ENGINEERING

FOR OIL AND GAS PRODUCERS AND PIPE LINE MEN

THE WEEK'S NEWS INTERPRETED



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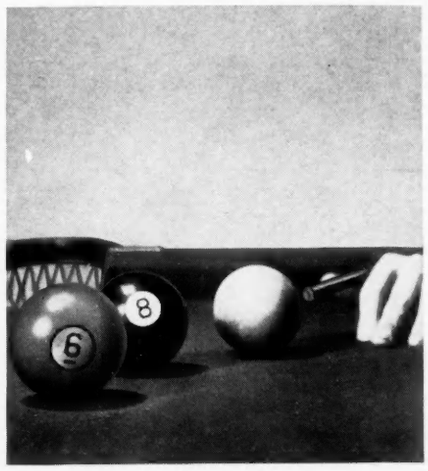
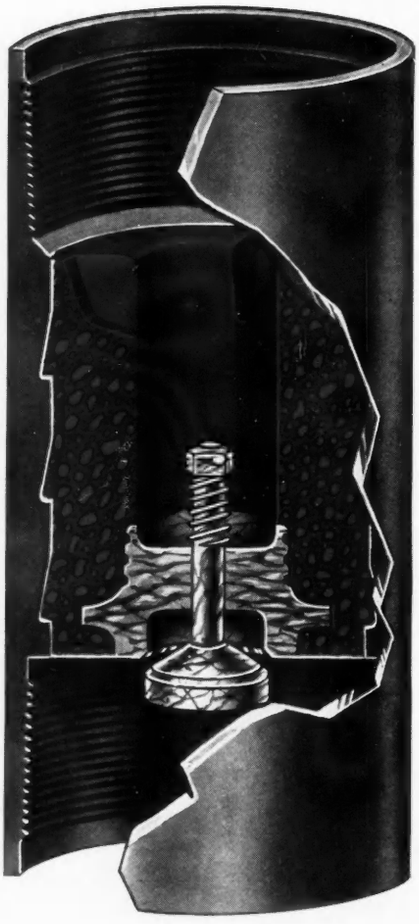
HOUSTON, TEXAS, U. S. A.

VOLUME 83 NOVEMBER 23, 1936 NUMBER 11

Are You Behind the 8 Ball on Cementing Jobs?



use LARKIN Float Collars



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Consider the big opening in Larkin Float Collars. 7 square inches of opening (almost double that of other makes) through the entire collar, plus the by-passes, makes it practically impossible to clog the main channel; and because of this large unrestricted passage it takes less pressure to pump the cement plug down, than with other makes of Float Collars.

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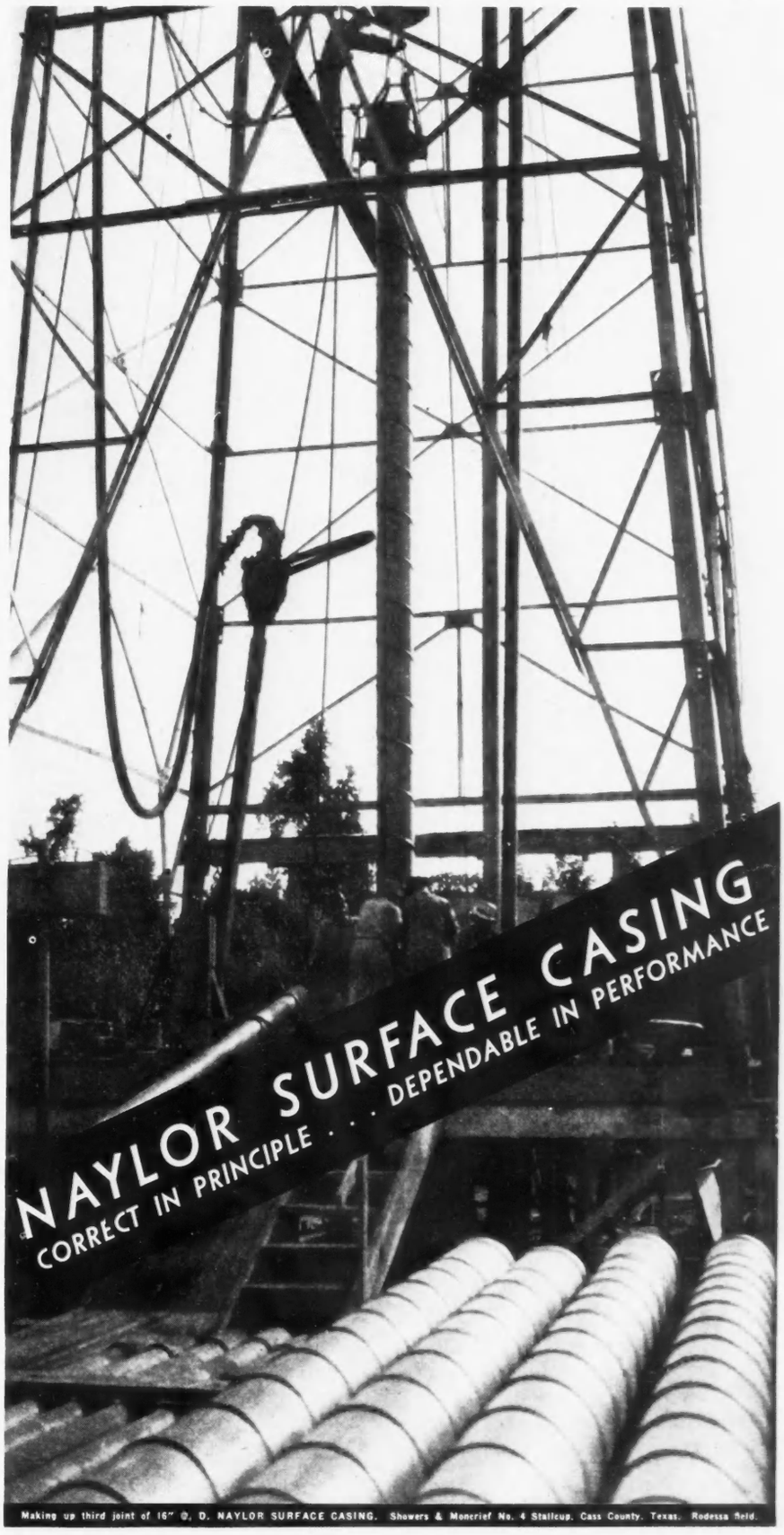
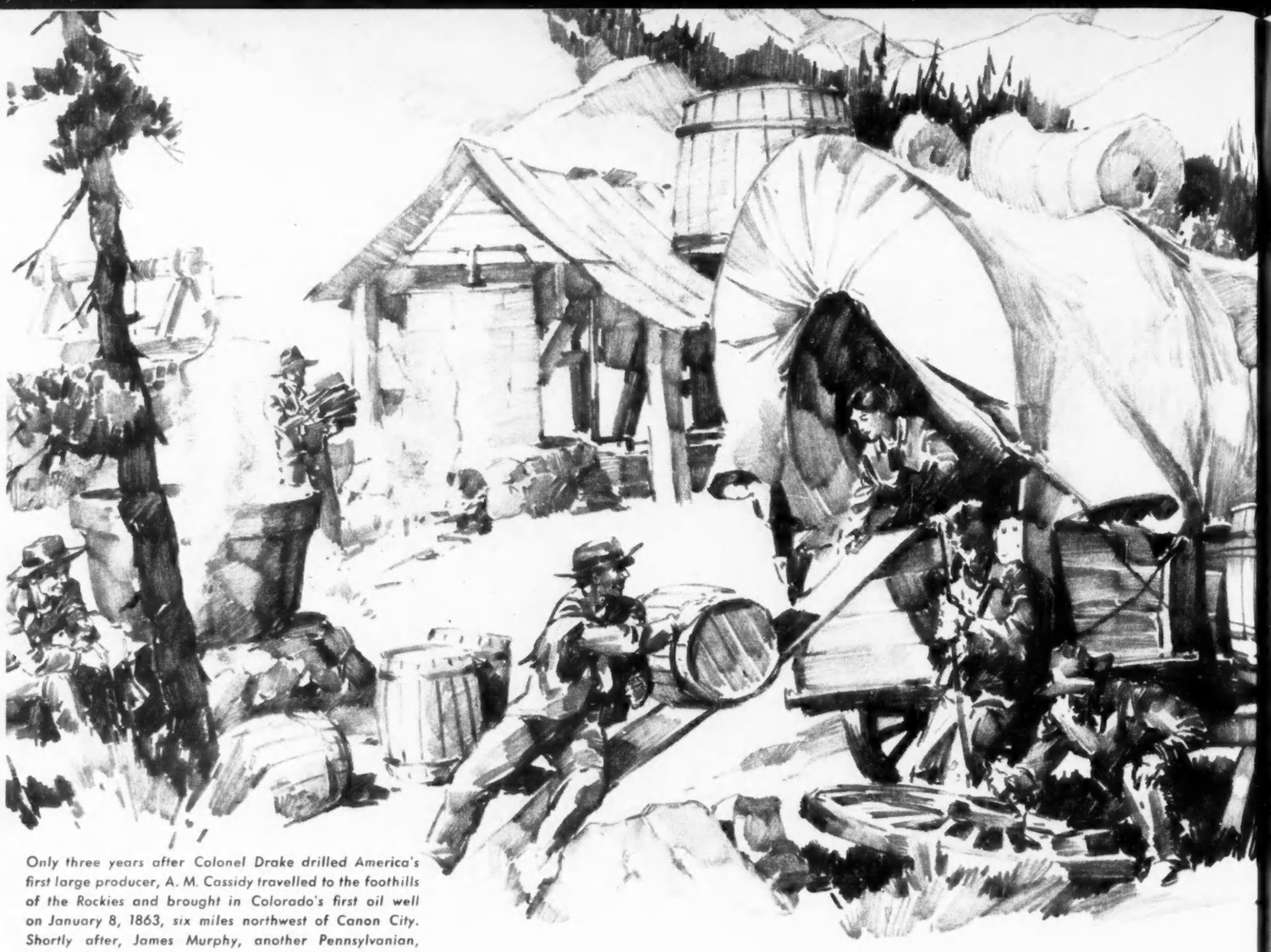


Making up third joint of 16" O. D. NAYLOR SURFACE CASING. Showers & Moncrief No. 4 Stallcup. Cass County, Texas. Rodessa field.



Only three years after Colonel Drake drilled America's first large producer, A. M. Cassidy travelled to the foothills of the Rockies and brought in Colorado's first oil well on January 8, 1863, six miles northwest of Canon City. Shortly after, James Murphy, another Pennsylvanian, carted crude refinery equipment to the spot. Here was produced the "coal oil" that lighted the cabins of settlers and axle grease that eased the way of prairie schooners.

Venturing into the far West that early settlers and pioneers might have oil, marked A. M. Cassidy, discoverer of Colorado's Florence field and James Murphy, builder of its first refinery, as true pioneers. Dowell is a pioneer too, because it brought a major contribution to the oil industry – *Inhibited* Acidizing to safely increase and prolong production.

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OIL AND GAS WELL CHEMICAL SERVICE

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THE OIL WEEKLY

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PUBLISHED BY
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SPECIALIZED OIL JOURNALS
Published by
THE GULF PUBLISHING COMPANY

BRANCH OFFICES

NEW YORK.....250 Park Ave.
PITTSBURGH.....Standard Life Bldg.
CHICAGO.....332 S. Michigan Ave.
LOS ANGELES.....Haas Bldg.
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Member Audit Bureau of Circulation
Member Associated Business Papers, Inc.

Published every Monday. Single Copies 15 cents. Subscription price: domestic and foreign, $2.00 a year; 2 years $3.00. Entered as second class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879. Subscription restricted to those engaged in the producing and pipe line branches of the oil industry or the manufacturing and distribution of oil field supplies.

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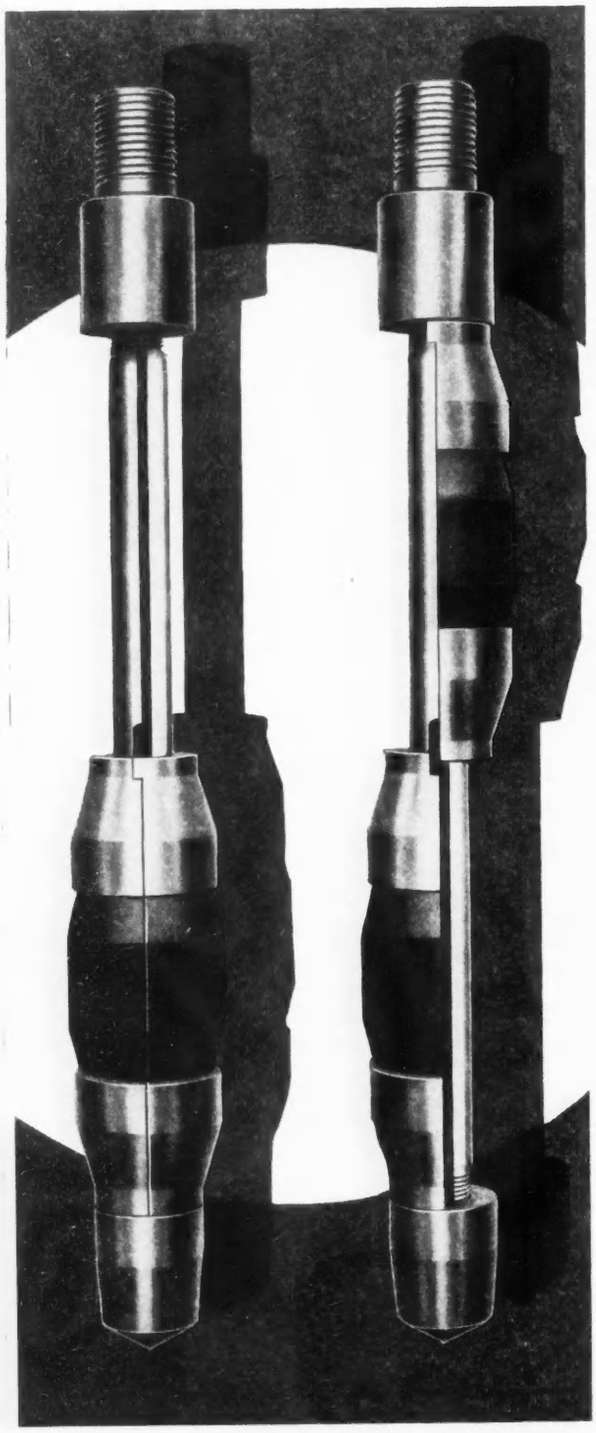
The MISSION VALVELESS SWAB



Goes down FAST through PARAFFIN or GAS

Often when other swabs will not go in the hole

THE MISSION VALVELESS SWAB FALLS LIKE A PLUMMET

. . . because the split-rubber, shown in the illustration, allows free by-pass for gas; and often permits Mission Swabs to pass through paraffin that stops other swabs.

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THE MISSION SWAB WILL NOT BLOW OUT OF THE HOLE WHEN PULLING LOAD as gas pressure will open split-rubber, permitting gas to by-pass, resuming its load without loss after gas has passed.

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THE OIL WEEKLY

FOR OIL AND GAS PRODUCERS
AND PIPE LINE MEN

ENGINEERING NEWS STATISTICS

WARREN L. BAKER, Editor

This Week:

TWO suggestions and one definite development of importance developed at the regular Texas monthly hearing held prior to establishing the state's production allowance for the approaching new month. The suggestions were that a minimum marginal production allowable be given new wells in flush wells so as to curtail drilling, and that henceforth all special market demands be divided among all fields rather than any particular area. The definite development was that the Bureau of Mines has increased its estimates of Texas demand 35,900 barrels over that of November, which will make it easier for the state to stay near the recommendation. **Page 8.**

RULE 37, which governs spacing of wells in Texas, has been declared a valid regulation and exercise of state police power by a three-judge federal court. The suit was a direct attack on the constitutionality of the rule, and was known as the Whittington case. It is expected to be carried to the United States Supreme Court. **Page 9**

EFFECTIVE November 14, the Texas Railroad Commission increased the allowables of nine fields a total of 16,513 barrels per day. It was explained by the commission that the higher allowables were granted so as to supply foreign contracts for crude from particular fields, and in some cases to prevent shifting of the market to other states. **Page 9.**

A STUDY of the petrographic and physical characteristics of sands in the Gulf Coast region has been conducted by M. T. Halbouty on sands either cored or obtained from cuttings from wells drilled to the top of the Middle Oligocene or deeper. The purpose was to determine whether or not the sands of certain geologic zones and formation have enough petrographical or physical characteristics to make them distinguishable as "this or that" zone. The first installment of a series of six appears on **Page 21**.

PUMPING fluid with the least possible grief and expense is a serious problem to stripper well operators today. Fortunately, several important advancements have been made in the care and maintenance of pumps that are a material assistance. Pumping economies have been realized through adoption of a new reboring cycle, and changes in the method of handling such equipment in the field have reduced operating difficulties considerably. **Page 25**

ONE of the largest pipe line reconditioning projects is nearing completion as Stanolind Pipe Line Company finishes reservicing its Casper, Wyoming, to Freeman, Missouri, system. The reclamation work included relaying many stream crossings, checking the condition of the line through test holes, and spot welding removed sections. **Page 38.**

THE low cost of producing oil from flowing wells makes it desirable to study the possibilities for increasing the flowing life of wells and for more accurate control of bottom-hole pressures and gas-oil ratios by proper tubing design. Some interesting possibilities have been disclosed by a preliminary investigation conducted in West Texas on 34 tests of wells flowing under widely different producing conditions. **Page 31.**

THE operation of pipe line scrapers in the East Texas field, where paraffin deposits require constant steps be taken to keep down the accumulation, have beeen improved by simple changes in design. It has been found that intentional by-passing some of the oil will carry the loosened material ahead and thus keep the scraper blades cleared to attack the deposit. To accomplish this purpose holes are punched in the leather. Another scraper improvement in vogue in East Texas is the addition of third or supplemental leathers, which prevents the device from sticking in gate valves. **Page 17.**

Next Week:

THE action of wells in the Rodessa field during the past 14 months, admittedly a very trying and difficult production period, indicates a reservoir energy that will account for a heavy flowing production during the next two years. The abuse of two intensely developed sections of the field was enough to dissipate the flowing energy of less vulnerable areas, yet formation pressures did not drop to a critical level during the period of greatest gas wastage. The field has been producing long enough to earn a position among the major areas of the country. These are the conclusions made by Brad Mills following a careful study of Rodessa.

ONE of the important conclusions by Emory Kemler and G. A. Poole in their investigation of flowing wells, made for the purpose of studying the possibilities of increasing the flowing life of wells through more accurate control of bottom-hole pressures and gas-oil ratios by proper tubing design, was that the gas-oil ratio has a greater effect on pressure differences in the tubing than does the tubular string size or rate of flow. Other discoveries of importance are also discussed in the second and concluding part of their series.

WHEN M. T. Halbouty made his study of the petrographic and physical characteristics of sands in the Gulf Coast for the purpose of determining whether or not sands of certain geologic zones and formations might be distinguished by this means, he spent many hours in the laboratory. In the second part of this series of six articles, he explains the laboratory procedure used in studying 315 samples, 45 of which were cuttings and 270 were cores.

Texas Hearing

PROPOSE NEW WELL AND MARKET POLICY CHANGES

AUSTIN

THE regular monthly statewide hearing before the Texas Railroad Commission to hear testimony preparatory to establishing the state's allowable for the coming month developed two important and interesting angles to problems confronting both the industry and the regulatory body.

The interesting developments were (1) a suggestion new wells in flush wells be given minimum marginal allowance and (2) that the commission cease its policy of granting allowable increases in particular fields where operators are able to show special consumption demands and that such demands be distributed to all fields in the state.

The commission announced that the Bureau of Mines reported December consumer demand for Texas crude at 1,145,200 barrels daily, which was 35,900 barrels higher than the November estimate by the Bureau, indicating that the latter body is recognizing the difficulty confronting proration officials in curtailing Texas production.

Would Curtail Drilling

The suggestion that the commission give minimum allowance to new wells in flush fields of Texas was offered as a substitute to the program now in effect, which gives to these wells the highest allowable assigned to wells in any field in the state.

The asserted purpose of this program was to curtail the drilling program that has caused the commission boundless difficulty. Advocates of the program declared that this was the only possible solution.

They pointed out that 664 new wells had been completed in Texas during November and that to these wells had been assigned an allowance of 32,249 barrels daily.

Of greatest interest, however, was the suggestion from Hines Baker, attorney for Humble Oil & Refining Company, that the Railroad Commission abandon its policy of granting allowable increases to particular fields where operators were able to show a local refinery need, a bona fide sale for export, replacement of out-of-state markets, or a new demand that would not affect the market for another Texas field. In a lengthy statement Baker explained the effect of this policy which, he said, would be to concentrate new markets in those fields more favorably situated and at the same time remove the markets for those fields where cost of production is high.

Commissioners Terrell and Smith, who held the hearing, questioned Baker at length as to the practical phases of the program he suggested. He admitted that it would present difficulties, but he insisted that these difficulties were not insurmountable.

"The Humble has shared Texas markets for years," Baker said. "We believe that this is the only means of obtaining equitable proration between fields throughout Texas."

He suggested that when a new demand was presented, the commission order the increase applied to all those fields capable of supplying the oil for which the new demand appeared. By this means, Baker proposed to distribute the entire market among all the fields.

Allowable Situation

The commission announced that the Bureau of Mines reported December consumer demand for Texas crude at 1,145,200 barrels daily. This is 35,900 barrels higher than the November estimate by the Bureau.

On November 18, Railroad Commission allowables permitted production of 1,161,410 barrels daily from Texas. This was an increase of 52,150 barrels since November 1. The completion of 664 new producers absorbed 32,249 barrels of this increase. The remainder resulted from special increases ordered by the commission for particular fields.

The new Bureau of Mines recommendation is only 16,210 barrels below the current commission allowable, which indicates that a reduction in line with Federal recommendations would not be nearly so difficult as it was on November 1, when the commission ordered a cut of more than 90,000 barrels.

Purchasers of Texas crude filed nominations to buy 1,407,726 barrels of oil daily during November.

Nominations filed by purchasers of Texas gas included 178,229 MCF daily from the East Panhandle field, 698,462 MCF daily from the West Panhandle field, or a total of 876,691 MCF of sweet gas daily in the Panhandle. Nominations for purchase of 597,193 MCF of sour gas from the Panhandle were received.

Outside the Panhandle, nominations were for the purchase of 448,332 MCF of gas, which brought the state total to 1,922,216 MCF daily for the month of December.

Van Wants Increase

An increase of 2,725 barrels daily in the allowable for the Van field was urged by J. M. Elkins, attorney for Pure Oil Company.

Elkins said that the field allowable was cut 8,900 barrels last month which resulted in withdrawals from storage of 7,725 barrels daily from the tanks at the Smith Bluff refinery. Elkins said that Pure Oil Company had in storage only

DEFER HEARING

Rodessa gas-oil ratio parley November 27

SHREVEPORT

DUE to the fact there was some question as to whether the hearing had been properly advertised, the gas-oil ratio hearing for the Louisiana side of Rodessa scheduled for November 19 at Baton Rouge was deferred until November 27 on orders of Conservation Commissioner William G. Rankin. After the hearing at which data assembled by the Rodessa Operators Committee as a basis for their recommendations will be presented, a permanent gas-oil ratio for the field is expected to be issued.

The engineering sub-committee of the Rodessa Operators Committee continues to take bottom hole pressures, gas-oil ratios, etc., but as their next data for a 30-day period will not be assembled until November 27 it will probably not be assembled in time for presentation at the hearing but the previous data from July 7 to October 27 will be presented.

Meanwhile a number of operators are voluntarily placing gas meters on their leases in Rodessa.

TEXAS NOMINATIONS FOR CRUDE OIL FOR SIX MONTHS PERIOD

DISTRICT	1936 December	1937 January	1937 February	1937 March	1937 April	1937 May	(Analysis of December Nominations) Convert into Products	To Sell as Crude Oil	To Use for "Heating Oil"
1—Southwest Texas	25,064	25,064	25,064	25,064	25,064	25,064	17,825	7,236	3
2—Southwest Texas	52,099	53,269	54,439	55,709	56,979	57,729	16,019	36,080	.....
3—Gulf Coast	221,766	223,396	224,466	224,966	229,836	230,846	118,413	103,137	216
4—Southwest Texas	150,952	152,952	152,952	153,717	154,472	155,227	71,825	68,787	10,340
5—East Central Texas	59,476	63,852	69,522	69,361	69,454	69,479	49,399	4,876	5,201
6—East Texas	36,330	36,330	38,830	40,330	41,830	41,830	14,400	21,930	.....
6—East Texas Field	458,514	457,514	457,017	456,014	455,057	455,014	204,719	252,795	1,000
7—West Central Texas	39,755	39,610	39,605	39,815	39,825	39,880	25,508	13,497	750
7C—West Central Texas	31,315	31,315	31,315	31,335	31,335	31,335	8,180	23,135	.....
8—West Texas	188,517	188,896	189,876	192,221	192,804	192,811	108,018	79,974	525
9—North Texas	58,671	57,973	57,974	57,976	57,978	57,980	30,969	27,702	.....
10—Panhandle	61,424	61,424	61,434	61,444	61,444	61,454	29,940	31,484	.....
Totals—All Districts	1,383,883	1,391,595	1,402,494	1,407,952	1,416,078	1,418,649	695,215	670,633	18,035

Compiled by: Railroad Commission of Texas—Engineering Department—Oil and Gas Division.—November 19, 1936.

200,000 barrels at Smith Bluff, which would soon be exhausted.

He declared that his company could not continue to operate under these conditions much longer.

"Proration is justified only so long as it does not become abusive," Elkins declared. "Pure Oil Company has no new markets. It is losing those markets which it had formerly and must buy from concerns which have a large volume of oil in storage.

"The commission has no legal right to prevent production of oil without waste where there is a firm demand such as we have from the Van field. If this practice continues, it will result in the end of proration. The oil operators will not stand for it.

"The Railroad Commission should not subject the producers of Texas to the necessity of going to court to protect these rights. That is not the function of a government official. It can be done, however, and will be done unless the operators get relief.

"I am insisting, urging and praying that the Railroad Commission grant this application."

Other Fields Ask Increase

The commission announced that a special hearing on the Barbers Hill field will be held at Austin on Tuesday, November 24. This announcement came after H. F. Montgomery, representing Mills Bennett Production Company, told the commission that "the last order has done irreparable damage to wells in the Barbers Hill field."

Sinclair Prairie Oil Company attorneys said that their company wanted more oil from Barbers Hill and was contemplating the purchase of 750 barrels daily from Louisiana unless it could be supplied from the field considered.

Pressure decline of 4.65 pounds in the East Texas field from October 12 to November 12 was reported by V. E. Cottingham, director of production for the Railroad Commission. Cottingham said that the average pressure on November 12 was 1,179.85 pounds. During the previous month the allowable had averaged 440,064 barrels and pressure had declined at the rate of 0.34 pounds per million barrels of oil allowed.

Minor increases in the allowable for several other fields were asked.

The status of allowables in Texas on November 18 is shown in the accompanying table.

Spacing Rule Upheld

COURT HOLDS RULE 37 IS A TEXAS REGULATION

AUSTIN

A THREE-JUDGE Federal court has held that Rule 37, as promulgated by the Texas Railroad Commission is a valid regulation and exercise of the state police power. This is the rule which governs the spacing of wells in Texas.

The finding was in the Whittington case, which is expected to be carried to United States Supreme Court for a final ruling.

The suit was a direct attack on the constitutionality of Rule 37. In its opinion the court said:

"The Railroad Commission of Texas has jurisdiction over all persons, associations or corporations owning or engaged in drilling or operating oil or gas wells in the State of Texas, but only for the purpose, and to the extent necessary, to prevent the waste of said natural resources. Said Commission is authorized to make rules and regulations or orders for the drilling of wells and the preserving a record thereof, and to require wells to be drilled and operated in such manner as to prevent waste. Rule 37, as amended, is a valid order of the Railroad Commission, and is not unconstitutional either under the constitution of the United States, or under the constitution of Texas. Complainant having failed to appeal from the order of this court setting aside the injunction, was thereafter producing oil from well No. 2-A without authority of any order of the Railroad Commission authorizing him to drill or operate said well, and without authority of any judgment or decree of this court authorizing him to do so, and therefore such well was an illegal and unlawful well, and Complainant was not entitled to the injunctive relief of a court of equity to aid him in his efforts to continue to violate the Oil and Gas Conservation Laws of Texas, and the Rules of the Commission thereunder."

GASOLINE PLANT

Phillips will construct in Rodessa, Texas, field

TULSA.

PHILLIPS Petroleum Company, Bartlesville, announced last week plans for construction of a well-pressure natural gasoline plant in Cass County, Texas. The plant will be in the west extension area of the Rodessa field. It will be of the latest modern type, capable of processing 50 000,000 cubic feet of gas daily at beginning of operations. Gas will be processed from producing leases on 2000 acres and more gas will be used as additional leases are exploited and drilled up.

INCREASE ALLOWABLE

Nine Texas fields raised 16,513 barrels daily

AUSTIN

THE Texas Railroad Commission issued orders last week increasing the allowable for nine Texas oil fields. The increases granted totalled 16,513 barrels and became effective on November 14.

The allowable of the Cayuga field was increased 2,300 barrels daily to 7,500 barrels. This increase was granted because operators contended that the oil would supply a market which was formerly supplied by crude from Mexico and Venezuela.

The Plymouth allowable was raised 2,500 barrels to 11,420 barrels in order to allow producers there to fill foreign contracts. The commission stated that the extra oil would not interfere with any that is now being sold for any other Texas field. The allowable for the Saxet-Frio area was raised 2,762 barrels to 10,000 barrels in order that operators in this field might ship a cargo of the oil to a foreign refinery. It is to be tested there to determine whether it will meet certain specifications required for the foreign buyer. The allowable for the Van field was increased 5,000 barrels to 31,296 barrels to prevent a shift of the market to fields producing in other States.

The McElroy field was raised 2,500 barrels to 4,650 barrels to supply a market which might be supplied from other states.

Iatan-East Howard was raised 600 barrels to 7,016 barrels to supply local refinery demand. The allowable for the North Ward field was increased 3,388 barrels to 8,500 barrels to supply contracts already entered into but which would have to be cancelled and the oil purchased in other states. The Foster field was raised 238 barrels to 538 barrels in order to give the field an allowable of 71 barrels per well said to be necessary for conservative operation. The Keystone was raised 613 barrels to 1,439 barrels for the same reason.

Status of Allowables in the State of Texas

November 18, 1936

DISTRICT	Daily Allowance Oct. 1	Daily Allowance Nov. 1	Daily Allowance November 18	Increase Due To Special Orders—Nov. 14	No. New Wells
1—Southwest	23,639	23,898	24,840	.....	14
2—Southwest	43,409	40,343	42,181	.....	30
3—Gulf Coast	175,073	145,617	151,568	.....	65
4—Southwest	102,481	97,980	107,447	5,262	156
5—East Central	40,473	31,671	36,971	5,000	3
6—East	14,932	13,883	18,581	2,300	38
6—Rodessa	11,700	15,374	19,407	.....	19
6—East Texas	436,700	439,292	442,409 (as of 16th)	.....	96
7—West Central	38,016	36,535	38,130	.....	40
7C—West Central	18,381	18,410	18,899	.....	13
8—West	151,054	126,736	140,056	7,339	123
9—North	62,380	60,186	61,072	.....	48
10—Panhandle	61,710	59,335	59,849	.....	19
Total	1,179,948	1,109,260	1,161,410	.....	664

Allowable increase November 1 to November 18, 52,150.
Increase due to fields increased by special order effective November 14, 19,901.
Normal increase in allowable due to new wells, November 1 to November 18, 32,249.

I. P. A. A. Meeting

ECONOMIC PROBLEMS OF THE INDUSTRY TO BE FEATURED

OKLAHOMA CITY.

SUBJECTS to be considered by the Independent Petroleum Association of America at its annual meeting here November 30 and June 1 will include unnecessary drilling, benefits from the five point program of the organization, necessity of the 27½ percent depletion allowance for oil producers and the benefits of maintaining oil output in harmony with demand from the refining branch of the industry.

The quarterly meeting of the Interstate Oil Compact Commission will be held jointly with that of the association.

Entertainment is being provided by a special committee representing the oil industry of Oklahoma City as well as the Chamber of Commerce of Oklahoma City. A pageant and parade will be staged the afternoon of the first day. The annual banquet, floor show and dancing will be held that evening.

Committee sessions will begin November 29. These committees will complete their work in order to report as scheduled on the program of the following two days.

The matter of discontinuing unnecessary drilling is due to occupy much committee time as well as deliberations of the association. A special sub-committee on this subject met in Tulsa November 17 to prepare rules and recommendations for submission at the convention. It was attended by D. R. Knowlton, Phillips Petroleum Company, Bartlesville; R. E. Hardwicke, attorney, Fort Worth; E. B. Shawver, oil producer, Wichita; H. B. Fell, executive vice president of the association; W. P. Z. German, Skelly Oil Company, Tulsa; and E. H. Buchner, executive manager of the association.

All committee meetings and general sessions will be held in the Biltmore hotel. The program of the general sessions follows:

NOVEMBER 30—10:00 A. M.

Invocation—Dr. A. G. Williamson, president, Oklahoma City University.

Address of Welcome—Frank Martin, mayor of Oklahoma City.

Address of Welcome—R. J. Benzel, president, Oklahoma City Chamber of Commerce.

Response—Charles F. Roeser, president, Independent Petroleum Association of America.

Report—H. B. Fell, executive vice president, Independent Petroleum Association of America.

Report—Russell B. Brown, general counsel, Independent Petroleum Association of America.

Report—N. T. Gilbert, treasurer, Independent Petroleum Association of America.

Report—C. E. Buchner, executive manager, Independent Petroleum Association of America.

Luncheon—Chamber of Commerce dining rooms, Wirt Franklin presiding.

Address—J. D. Collett, Fort Worth, president Mid-Continent Oil & Gas Association, "Benefits to Accrue to the Petroleum Industry from the Accomplishment of the Five Point Program of the Independent Petroleum Association of America."

NOVEMBER 30—1:30 P. M.

Address—"Restriction of Imports Essential Part of any Constructive Program for Domestic Petroleum Industry," A. H. Crites, Anchor Oil Company, Maricopa, California.

Discussion—To be led by Marrs McLean, Beaumont, Texas.

Address—"The Necessity and Justness of 27½ Percent Depletion Allowance to Oil Producers," Wesley E. Disney, Congressman, Tulsa.

Discussion—To be led by F. P. Plank, Empire Oil & Refining Company, Bartlesville.

Address—"Conservation and Stabilization Synonymous in the Petroleum Industry," Dr. Virgil R. D. Kirkham, Saginaw, Michigan.

Discussion—To be led by E C Moriarity, Derby Oil Company, Wichita.

NOVEMBER 30—7:00 P. M.

Frank Buttram, Oklahoma City oil producer, will be the presiding officer at the banquet. Rev. John R. Abernathy, Oklahoma City, will be toastmaster.

Address—Charles F. Roeser, president, Independent Petroleum Association of America.

Address—"The Interstate Compact," Colonel E. O. Thompson, chairman of the Railroad Commission of Texas and chairman of the Interstate Oil Compact Commission.

Address—"Taxation," Baird H. Markham, director, American Petroleum Industries Committee, New York.

DECEMBER 1—10:00 A. M.

Address—"The Benefits of a Permanent, Assured and Effective Balance of Supply with Demand to the Refining Branch of the Petroleum Industry," C. M. Boggs, president, Western Petroleum Refiners Association, Arkansas City.

Discussion—To be led by T. M. Martin, vice president, Lion Oil Refining Company, El Dorado, Arkansas.

Committees—The remainder of the morning session will be devoted to routine committee reports, after which there will be a luncheon for representatives of the press. The afternoon session will take up any business from the morning session. Elections of officers, directors and executive committee members will complete the program.

SULPHUR HEARING

Austin.—The Railroad Commission has postponed indefinitely its hearing on the Sulphur Bluff field, Hopkins County, which was scheduled for November 20 at Sulphur Bluff.

Strike Is Called

MEXICO CONCERNS MAY SHUT DOWN NOVEMBER 29

MEXICO, D. F., MEXICO

FIFTEEN oil companies having balked at negotiation with the National Oil Syndicate, a labor union, of a blanket labor contract embodying extreme and unusual demands, a general strike of oil industry workers in Mexico has been called for 11 a. m. November 29.

Confiscation of private and corporate property is feared should the strike be given the added impetus it would obtain if President Lazaro Cardenas of Mexico puts his signature on new "distribution of private wealth" legislation passed November 18. This legislation lacks only the executive's signature to convert it into law. It is similar to the already effective agrarian "reform" legislation which has broken up many large ranches into small farms and allotted them to workers.

Yielding to the demands of the labor union would cost the oil industry an added operating cost of $70,000,000 annually, it is estimated, in addition to an immediate outlay of about $28,000,000 for housing facilities demanded. Foreign capital invested in Mexico in the oil industry is estimated at $350,000,000. Total income of the oil companies in Mexico in 1935, including taxes collected from consumers for the government, was about $59,720,055.

Reasons for calling the strike are not agreed upon by the labor union and oil companies. The National Oil Syndicate declared it was called because of minor labor conflicts with Pierce Oil Company, a Sinclair interest, and with El Aguila, a Royal Dutch Shell interest. The oil companies contend it was called, according to the local press, by refusal of the companies to agree to a series of exorbitant demands, a partial list of which is contained on page 54 of this issue of THE OIL WEEKLY.

One man, resident of Tampico for 20 years, declared in an exclusive interview that this strike is not to the liking of the general run of Mexican oil field workers. He stated, on the other hand, that it was being engineered by a group of outside foreign agitators and that in many localities the laborers were really opposed to the strike. This man, directly or indirectly connected with the industry during those years, said that in one instance one of the generals in the army took for his personal satisfaction a poll among employees of one of the more important foreign controlled companies operating in Mexico. The general queried each man individually as to whether he was in favor of the strike. In every instance the answer was negative, it was said.

The same man, who asked that his name be not revealed, said that the oil companies had really brought the strike upon themselves in most instances by failure to meet firmly ridiculous demands of labor in the past. He cited one company which had consistently fought the influence of agitators whenever it cropped up and ventured the opinion that the company would not be involved as heavily in the current difficulties as those who have yielded instead of fighting.

Along this line, one dispatch going out of this city for use by Associated Press November 18 quoted an oil company official as stating: "We've got to fight this thing out some time and it might as well be now."

Here's the Modern Way!

Use a BAKER CEMENT RETAINER

For SQUEEZE JOBS

A Sinton field operator says, "Being able to wash back and check cement put away with perfect safety is a wonderful feature."

Not only can high pressures be applied and the hazards of the ordinary tubing method eliminated but also the unusual can be met—with no additional equipment. Take the job in the Sinton field illustrated to the right. The 7" casing was ripped at the points shown. With a cement bridge in the hole just below those points, a cement retainer was run and set above them. Then 25 sacks of cement were squeezed into the formation. The Circulation Jar was lowered, circulation reversed and the hole washed back. About half the cement was returned, so another 25 sacks were squeezed in. AND—all mud ahead of and between batches was by-passed out through the Circulation Jar to prevent any contamination.

As a BRIDGE PLUG to test upper formations

A Clarkwood operator says, "Never saw anything so slick. Will always use them hereafter for bridges." He had perforated from 6472' — 6480' in a 5" liner hanging in 7" casing at 4438' and got salt water. So he set a Model F Cement Retainer as a Casing Bridge Plug at 5400' and was able to test through perforations made from 5307' to 5317' and from 5335' to 5355'. After the Retainer was set, a 5000 lb. strain and 20,000 lb. set-down on the tool did not cause it to move or leak in any way.

BAKER OIL TOOLS, INC.

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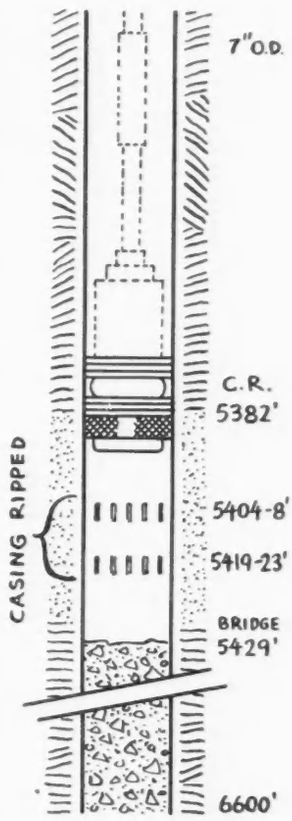

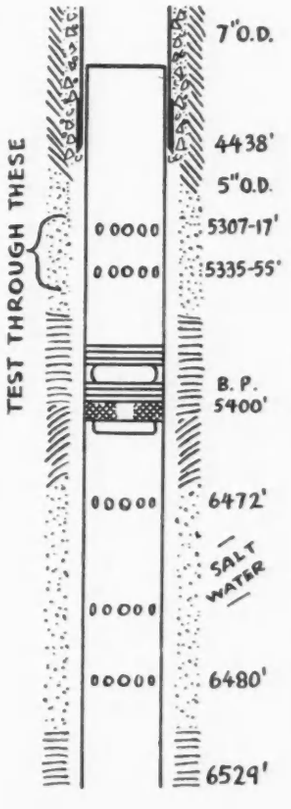

MANY OTHER USES

The Cement Retainer has proved itself in meeting difficult cementing problems. Here are some of the types of jobs which it is performing every day in the Gulf Coast Territory alone.

Plugging Back—sometimes as a Casing Bridge Plug alone, sometimes as a Cement Retainer placing cement into formations by squeeze jobs, through perforations and under various conditions — for testing sands above or for protecting them.

Cementing Sections of Blank Pipe to shut off intermediate zones.

Recementing around the shoe, through perforations or to meet other conditions encountered.

As a ***Casing Bridge Plug,*** this tool performs many jobs.

There are many other special jobs which the Cement Retainer has been doing in Texas. It has provided for Placing Multiple Batches of Cement, to Overcome Leaks in Casing, for Cementing Perforated Pipe, for Shutting off Gas Sands and for Cementing Low Pressure Zones by keeping the hydrostatic head of fluid in the hole off the sand.

●

Complete Details on the Use and Operation of this Tool are given in an illustrated Treatise which we will gladly send to you upon request.

●

BAKER Model F CEMENT RETAINER

and Casing Bridge Plug

MEN IN THE INDUSTRY'S NEWS

A. W. LEONARD, FORMER VICE PRESIDENT AND GENERAL MANAGER, ELECTED PRESIDENT OF DEVONIAN OIL COMPANY

HIS ENTIRE BUSINESS CAREER HAS BEEN DEVOTED TO THE OIL INDUSTRY

A. W. LEONARD, formerly vice president and general manager of Devonian Oil Company, was elected president of the company November 14 by directors meeting at Pittsburgh, Pa. Leonard succeeds the late J. H. Evans. A native of Turkey City, Clarion County, Pennsylvania, Leonard graduated from Notre Dame University, following which he became a salesman for National Supply Company. In 1905, after being in charge of the properties of Devonian in West Virginia and Ohio, Leonard was transferred to Indian Territory, where he built the first large natural gas line in what is now Oklahoma. He went to work for Oklahoma Natural Gas Company in 1916, and in 1922 was made vice president in charge of operations. He was in charge of the construction of the gas line of Panhandle Eastern Pipe Line Company extending from Texas Panhandle to Indianapolis, Indiana. Leonard returned to Tulsa following the completion of the line, and has served the Devonian company here since that time. Devonian is thought to be the oldest independent oil company in the United States, having been organized since June 16, 1891.

A. W. LEONARD

DORSEY HAGER on December 1 will open an office in the Esperson Building, Houston. He will still maintain his offices in Winnipeg, Manitoba, and Lansing, Michigan. The broader activities of the Gulf Coast necessitated his opening the office, he states. He plans to make geological reports, valuations and appraisals on oil and gas properties. At present Hager is in Pensacola, Florida, doing some consulting work.

D. V. CARTER, chief petroleum engineer for Magnolia Petroleum Company, Dallas, was a business visitor in Wichita, Kansas, the past week.

PAUL M. BUTTERMAN, head of the geological and land departments in the Mt. Pleasant, Michigan, district for The Chartiers Oil Company of Pittsburgh, accompanied by his wife, was vacationing in Texas last week.

GLEN HARROUN, former superintendent of production for Sinclair Prairie Oil Company in the Fort Worth division who resigned last August 1, is operating as an independent, having recently started a test in the Escobas field, Zapata County, Southwest Texas.

J. D. REASER, pumper foreman for Continental Oil Company in the Albany area, West Central Texas district, has been transferred to Orange, Texas, to fill a similar position.

F. R. CORBELL, production foreman for Magnolia Petroleum Company in the Sinton, Texas, district, has been transferred to Mount Pleasant, Texas, to become superintendent of its operations in the Talco field, and will be succeeded by J. H. Summers, formerly at Mirando City, Texas. The company designated Talco as a separate district on November 16, thereby relieving E. N. Wilson, district superintendent of the East Texas field, of the necessity of dividing time between the two areas.

The Oil Man's Calendar

NOV. 30–	American Society of Mechanical Engineers, Annual Meeting, Society's Building, New York.
NOV. 30–DEC. 1	Independent Petroleum Association of America, Biltmore Hotel, Oklahoma City, Oklahoma.
1	Interstate Oil-Compact Commission Oklahoma City, Oklahoma
DEC. 4	Mid-Continent Oil and Gas Association, Texas Division, Annual Meeting, Houston, Texas.
5–13	First International Consumers Petroleum Exposition, Detroit, Michigan.
15	Mid-Continent Oil & Gas Association, Annual Meeting of General Board of Directors, Tulsa, Oklahoma.
JUNE 1–3	American Petroleum Institute, Mid-Year Meeting, Colorado Springs, Colo.

W. C. CORWIN, manager of drilling and production operations of Socony-Vacuum Oil Corporation in Europe, is scheduled to board ship at New York City late this month to return to headquarters at Hamburg, Germany, after an extensive tour of oil fields in the Mid-Continent. He was largely interested in gas-repressuring and water-flooding projects.

W. P. LUSE, president of Luse Petroleum Company and co-discoverer of the Sulphur Bluff field, Northeast Texas, is recovering in a Dallas hospital after being critically ill from complications that arose from an operation. He will be confined another month, according to attending physicians.

DR. VIRGIL R. D. KIRKHAM, economic geologist, of Saginaw, Michigan, will deliver an address on "Conservation and Stabilization Synonymous in the Petroleum Industry" at the annual meeting of the Independent Petroleum Association of America in Oklahoma City. Dr. Kirkham for many years has been a student of economics and geology, particularly as they affect our mineral resource industries. At present he is vice president of the Oil & Gas Association of Michigan.

WESLEY E. DISNEY of Tulsa, Oklahoma, member of the Ways and Means Committee of the House of Representatives of the United States Congress, will deliver an address at the Tuesday afternoon, November 30, session of the annual meeting of Independent Petroleum Association of America, in Oklahoma City, on the subject of "The Justness and Necessity of 27½ Percent Depletion Allowance to Oil Producers." Congressman Disney, as the representative in Congress from the First Congressional District in Oklahoma, has taken a leading part in oil legislation and has made a special study of all legislation pertaining to the petroleum industry.

DR. C. E. DECKER, of the University of Oklahoma, directed a tour of geologists from Oklahoma City and nearby cities Saturday, November 21, over the Arbuckle uplift, some 15 miles west of Springer, on the edge of the Arbuckle mountains. The trip, sponsored by the Oklahoma City Geological Society, was joined by Dr. R. W. Harris, who made a talk on micropaleontology of the formation, principally the Simpson formation, and described and exhibited some new micro forms.

STUART F. HEINRITZ, editor of "Purchasing," New York City, was the principal speaker at the executives night meeting of the Purchasing Agents Association of Tulsa, held November 17 in the Tulsa building. His subject was "Uncle Sam—Your Purchasing Agent and Mine." The meeting was specially planned for the executives of the member companies, and was designed to give them a picture of the work being carried on by the organization. Engaged in journalistic work bearing on purchasing for more than 10 years, Heinritz has served purchasing agents throughout the country in numerous capacities. The background for his talk was procured through extensive association with procurement

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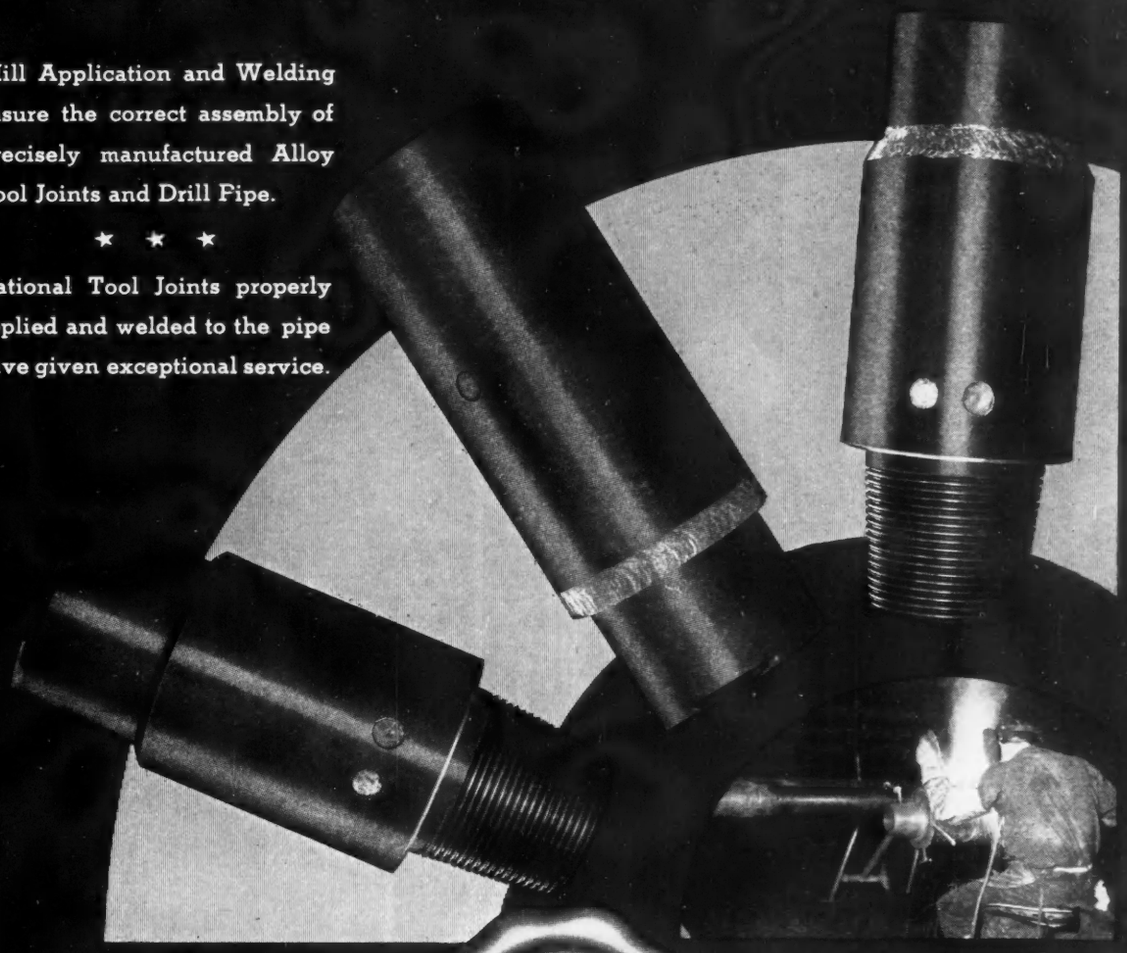
National Tool Joints properly applied and welded to the pipe have given exceptional service.



THE NATIONAL SUPPLY COMPANY

NSCO

National

methods of the federal government. During 1935, Heinritz served with the Consumers Advisory Board of the NRA, and also served as chief of the Code Advisory Board. This was his first appearance in Tulsa.

DR. J .V. HOWELL, consulting geologist, spoke before members of the Tulsa Geological Society, Monday, November 16, on "Geologic Notes of Northwest Canada." Howell, once with the old Marland Oil Company, was sent to northwest Canada as head geologist of Hudson Bay Oil Company in 1927, and remained there for several years.

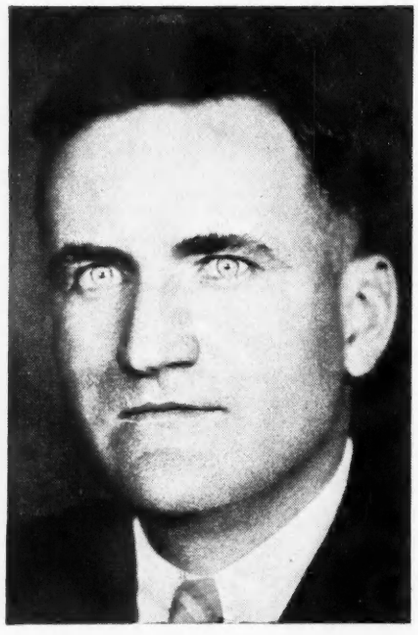
ING. PASCUAL ORTIZ RUBIO, ex-president of Mexico and currently head of Petroleos de Mexico, S. A., has tendered his resignation as director general of the semi-official, government controlled oil company, subject to acceptance at the next meeting of the board of directors. Rubio explains that he desires to devote all his time to private interests.

When Rubio was appointed head of "Petromex" in July 1935, by President Lazaro Cardenas, it was generally taken as an indication of continuance of the government's policy of holding Mexican oil for the Mexicans. This expectation has been justified by events during Rubio's regime.

Born in 1877 at Morelia, Michoacan de Ocampo, Mexico, he was educated as an architect and engineer but entered politics early in life. During Madero's rule he served in the national congress as a deputy from the second district of Morelia. In 1917 he was governor of his state. In 1921 he was Mexico's secretary of state, Mexico's ambassador to Germany in 1923, and later ambassador to Brazil. Starting as a lieutenant in 1911, by 1920 he had attained the rank of brigadier general.

February 5, 1930, Rubio was elected president of Mexico, resigning September 3, 1932, to be succeeded by President Rodriguez. He moved to the United States for a while upon expiration of his term in the presidency.

PASCUAL ORITZ RUBIO



B. DYKSTRA

B. DYKSTRA, former division superintendent for Shell Petroleum Corporation at Corpus Christi, Texas, has been transferred to the Tulsa offices where he is chief exploration engineer. Although Dykstra has been a member of the Shell organizations for more than 12 years, all this time has not been spent in the United States. He has seen service in both Rumania and Sumatra. Dykstra returns to Tulsa after an absence of six years.

JOE A. HALE, chief scout in the land department of the Kansas-Oklahoma-Kentucky division of The Texas Company at Tulsa, has been named assistant to E. R. Filley, manager of the producing division. Hale joined the staff of The Texas Company in 1926 as a stenographer in the engineering department. In 1928 he was moved into the land department and became chief scout. Howard Johnson, formerly assistant to Hale, becomes chief scout.

ROBERT S. KERR, Anderson & Kerr Drilling Company, Oklahoma City, was re-elected president of the Kansas-Oklahoma Division of the Mid-Continent Oil & Gas Association November 20.

Other officials re-elected are Rush Greenslade, Gulf Oil Corporation, Tulsa, first vice president; T. C. Johnston, Wichita, vice president for Kansas; and Clarel B. Mapes, secretary-treasurer.

Other officials elected for the first time are A. W. Ambrose, Empire Oil & Refining Company, Bartlesville, vice president for Northern Oklahoma; Will H. Smith, Ardmore, vice president for Southern Oklahoma; W. R. Wallace, Magnolia Petroleum Company, Oklahoma City, vice president for Western Oklahoma.

H. F. OSLER, Winnepeg, Manitoba, Canada, recently was re-elected president of the Calgary and Edmonton Corporation at the tenth annual stockholders meeting in Winnepeg. Other directors elected include D. C. Coleman, Montreal, vice president; Patrick Burns, Calgary; Viscount Chaplin, London; Alexander H. Douglas, Vancouver; C. Edward Disher, Vancouver; Charles F. Joyce, Winnepeg; F. Gordon Osler, Toronto; and Frederick Roche, London.

W. S. "BUCK" MORRIS, field chairman for the East Texas Engineering Association, Kilgore, was a Houston visitor last Friday.

DIED:

SAMUEL W. STEWART, 73 years of age, died November 14 at his home near Robinson, Illinois. Stewart was born at Clintonville, Pennsylvania. He began working for Associated Producers Company in the Pennsylvania fields and was transferred in 1909 to Illinois, in the capacity of foreman, afterwards being promoted to superintendent, which position he held until his retirement in 1925, ended a service of 38 years. Since that time he has been on the pension roll of Tide Water Oil Company.

R. D. MORGAN, assistant manager of Wessendorff, Nelms & Company, Houston, died November 13.

NEW ASSOCIATION

Shreveport. — Organization of the Louisiana Independent Oil and Gas Association with W. J. Hunter, Shreveport, president and R. J. Reinke, Shreveport, formerly of Fort Worth, secretary, was announced here Friday. Headquarters will be maintained in Shreveport. Vice presidents will be selected in each congressional district. All independent oil and gas operators, royalty owners, landowners and industries affiliated with the oil industry are eligible for membership in the organization which is chartered under the laws of Louisiana.

FEDERAL TAXES UP

Washington, D. C.—Sharp increases in October in three of the four federal oil taxes were reported November 20 by the Bureau of Internal Revenue, gasoline leading the list with a jump to $21,024,801 from $18,949,475 in September. The October collections were four million dollars in excess of the $17,002,733 reported for the same month last year.

Receipts from the lubricating oil tax totalled $2,966,616 for the month against $2,512,321 in September and $2,321,975 in October, 1935. Collections from the transportation of oil by pipe line were $996,163 against $937,531 in September and $883,509 last October.

The only loss was in the revenue from processing, which dropped from $73,644 to $71,897; collections in October, 1935, were $93,965.

With the exception again of the processing taxes, all federal levies brought increased revenue over last year for the ten months ended with October, the bureau announced.

Receipts for the ten-month period included $157,077,539 from the gasoline tax against $140,510,098 last year; $24,565,995 from lubricating oil, against $24,198,042; $8,799,289 from pipe line transportation, against $7,787,300; and $715,454 from processing of oil, against $1,552,190.

These oil-field engineers are weighing a well with a dynamometer, an important phase of "OILWELL" Sucker Rod Engineering Service.

Let "OILWELL" *select your Rods this way*

OFTEN the same grade of sucker rods will not work efficiently in wells only 100 yards apart. To help you get the right sucker rod for every well you pump, "OILWELL" offers its Sucker Rod Engineering Service.

This service is handled by metallurgically and mechanically trained engineers who can analyze every one of your wells and specify the grade of rod you need. Call on "OILWELL" Sucker Rod Engineers to help you toward greatest pumping efficiency.

THE ONLY FULLY HEAT-TREATED SUCKER RODS

"OILWELL" makes the only fully heat-treated —normalized, *quenched* and drawn—sucker rods by an exclusive process which is protected by basic process, product and equipment patents. Fully heat-treated sucker rods in grade "A", "Y", "S" and "T" back up the skill of "OILWELL" Sucker Rod Engineers.

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Subsidiary of United States Steel Corporation

Branch Stores in All Oil Fields

"OILWELL"

One Tru-Lay *Preformed* Rotary Line

—is all that is necessary to prove to you the real economy of Preformed because

. . . it is far easier and faster to string;

. . . it doesn't whip, even at high speeds;

. . . it spools evenly and tightly even when under the weight of the idle block;

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. . . it will cut down your round-trip time;

. . . it will last longer.

And the longer you use TRU-LAY Preformed the more you will appreciate its uniformity and consistency of service, its complete relaxation based on preformation.

Try just *one* TRU-LAY Preformed line. Specify the "IPS" (Improved Plow Steel) Grade. You will know it by its Emerald Strand—and you will find by its use that green signifies safety not only to men and equipment but to your pocketbook as well.

GREEN SIGNIFIES SAFETY

AMERICAN CABLE COMPANY, Inc.

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IN BUSINESS FOR YOUR SAFETY

Branches or Distributors in all Oil Field Centers

TRU-LAY *Preformed* Rotary Lines

ALL AMERICAN CABLE COMPANY LINES MADE OF IMPROVED PLOW STEEL ARE IDENTIFIED BY THE EMERALD STRAND

Bettering Pipe Line Scraper Runs

Effectiveness of devices in use in East Texas has been improved by simple changes in design that include the installation of additional leather and provisions for by-passing some of the oil.

By ELTON STERRETT, Engineer

PARAFFIN deposits in pipe lines, particularly in East Texas and similar fields, build up so rapidly that unless constant steps are taken to keep down the accumulation it will soon overload the pumps by throttling the flow and so build up a back-pressure against which pumping can no longer be maintained.

Although sporadic experiments have been made involving steaming out lines or heating them on the exterior, any such scheme is expensive and is restricted to short units. In other instances the oil being pumped is run through heat exchangers and its temperature thus raised enough to forestall in some measure the deposition of the clogging paraffin.

One East Texas pipe line company, which had relied on this plan for holding down paraffin formation, figured that under maximum conditions it would be possible to put the oil into the main line at a temperature of 90° F. During protracted dry weather, with a ground temperature at pipe level of 70°, this imposed temperature carried for several miles down the line, and undoubtedly did help in delaying paraffin precipitation.

As soon as the terrain becomes water soaked, however, and from that time until it has dried thoroughly to below pipe bottom, the damp earth serves as an excellent heat conductor, with the oil at the five-mile post thermometer checking within two degrees of that arriving at the tank farm—or that drawn from the pump station tanks and forced through the suction-line heat exchangers.

The running of scrapers, "go-devils" or "pigs," relying on the stream of oil being pumped to propel the mechanism and remove the loosened paraffin, seems to be the only positive method of clearing a line—it always being possible to dispatch a second scraper in the line for dislodging one stuck or hung up, and to pace the second with men afoot over the right-of-way to keep track of the moving go-devil and to note the spot at which it stops.

In most cases where the "pig" hangs up in a line which has previously been traversed successfully, this trouble is traceable to the paraffin accretions being left undisturbed long enough to become consolidated into a gummy, adherent mass. As first deposited paraffin tends to collect in flakes or small patches, in which form it readily re-enters the oil stream if agitated or stirred. But, as additional material is deposited, the oil present in the first layers is forced out and the material becomes firmly cemented.

When a scraper is run through a pipe lined with dense paraffin, the toothed cutter wheels on the centering arms split the coating longitudinally, while the radial blades are relied on to scrape the pipe walls. This loosened material is carried by the fluid directly in front of the scraper, travelling away from and clearing it for further work only by the displacement afforded by the amount of oil leaking past or by-passing the propelling leathers.

By-Passing Holes Prove Aid

If the leathers formed a leak-tight seal, the scraper would move at exactly the speed of the oil column, and in but a short travel the entire scraper would be gummed into an unrecognizable mass by piled-up paraffin deposits. Noting that this condition was approached by the scrapers upon removal after being run through the high-pressure section of its main line, one pipe line company figured that the provision of intentionally by-passed oil would carry this loosened material ahead more effectively, and thus keep the scraper blades cleared to attack the lining material.

Runs made when conditions were approximately equal, insofar as temperature, gravity of oil and pressure increases were concerned, bore out this conclusion. A scraper provided with the usual standard type of leathers, and one on which the leathers had been changed by the provision of regularly

spaced holes to permit a portion of the oil to pass directly through the packers were used.

The first scraper was gummed up so thoroughly as to resemble a slug of asphalt, while the one run later came out with its cutter wheels and blades still projecting from the material clogged around the axis of the mechanism.

At first merely punched the leathers, the holes were found to clog easily with bits of paraffin which, loosened by the scraper's passing, became detached afterward and were washed up against the leather, blocking the tiny apertures. As an improvement over the unprotected holes, in which fibres from the material acted to trap floating particles, the next leathers were fitted with grommets which, with their smooth metal facing and rounded opening, permitted tramp particles of paraffin to wash through.

Scrapers fitted with these by-pass apertures do not, of course, travel as rapidly as do those with leathers intact, the retardation being dependent upon the percentage of the total stream being by-passed. Instances which permitted close comparison of pressure drops secured through scraper operation show that the action of a scraper continually washed clear of paraffin carries through the entire section traversed as effectively as where first introduced; whereas the clogged scraper soon tends to slide over and still further compact the deposits already adhering to the pipe walls.

Increasing the time of a scraper run by as much as 15 to 20 percent or even higher by perforating the leathers does not affect the effectiveness of the cleaning action, and the paraffin thus loosened and carried to the delivery end of the line comes through in muct smaller fragments than otherwise.

Previously to the experiments leading to running the by-passing leathers, it was not uncommon for the gaugers at the receiving tank farm to hear slugs of paraffin drop into the oil with resounding splashes as they emerged from the pipe line. In one instance where a cracked gate partially blocked the line, strips of tough, tenacious paraffin as long as a man's arm and nearly as heavy, were taken from behind the obstruction.

Finding that the smaller sizes of scrapers being used for clearing its field gathering lines were sometimes hanging up in gate valve bodies or in horizontal checks, it was decided that the distance between leathers as ordinarily provided was less than that spanning the enlarged section of gate or check body, and that unless its momentum carried it past, the scraper would stop in a position such that neither leather sealed the line.

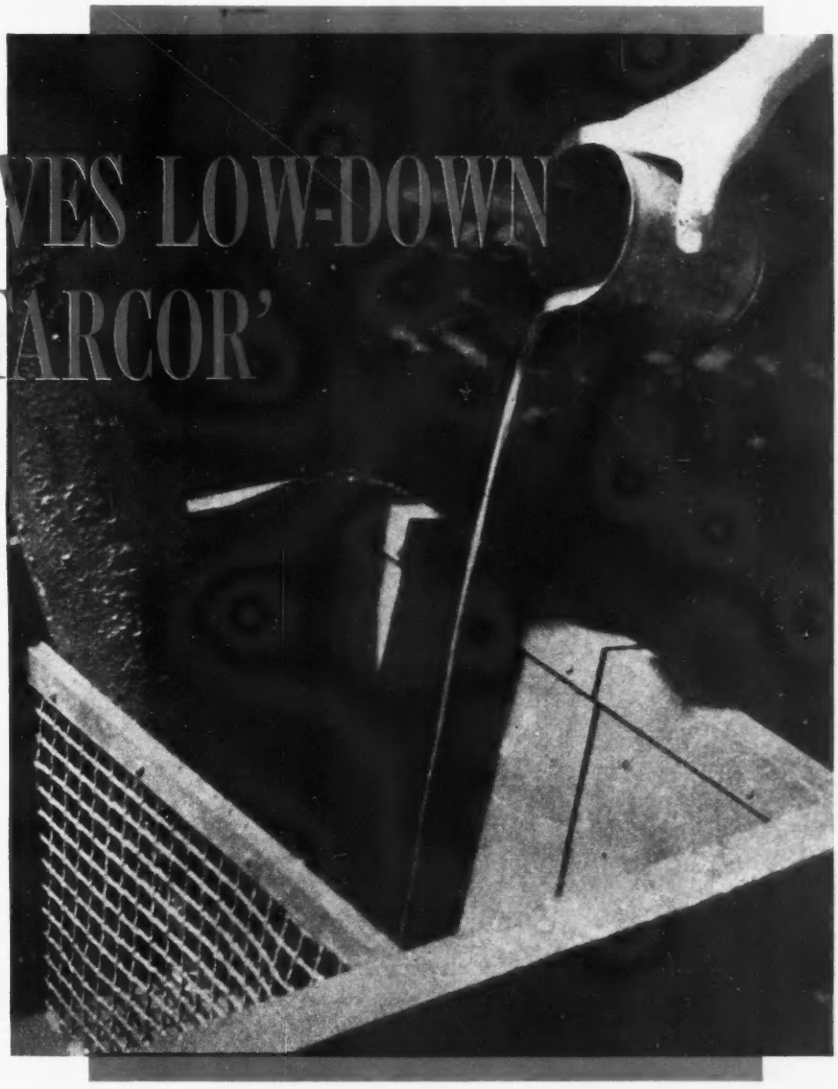
Another Leather Lessens Trouble

Provision of a third or supplemental leather carrying unit was accomplished by taking an additional front section and welding to it a nut which would screw in place of the one normally used to fasten the second or rear leather. This three-in-line coupling of leathers assured a packing in the line even through the longest of check bodies.

Since the elongation of the scraper in this manner there has yet to be reported the first case of a hang-up in either gate or check. The increase in length thus given is not enough to cause trouble in rounding turns or negotiating the more frequent wide-angle welded bends, the center leather collapsing on the inside of a turn much as the blind flange driver on a locomotive carries sideways to accommodate track curvature.

In the foreground is a four-inch scraper with pusher extension to insure passage through gates. To the right is a large unit with grommet-lined holes in leathers for by-passing some of the oil so as to wash the loosened paraffin ahead of the scraper.

RODESSA GIVES LOW-DOWN ON 'STARCOR'



Oil Man's Cement Pumps Easily at 16 Lbs., Slow Setting at High Temperatures

RODESSA—"world's busiest deep-drilling area, proving ground for deep-hole methods"—gives you the low-down on 'Starcor,' the Oil Man's cement. Here, where hot holes are the usual thing, 'Starcor' is proving its value, showing on well after well what it means to be "easily pumpable at 16 lbs. per gallon . . . and slow setting at high temperatures."

Greater Pumpability

Showers and Moncrief Stallcup No. 2 is 6030 feet deep (7" O. D. pipe in 9⅞" hole). 570 sacks of 'Starcor' in a 16-lb. slurry were pumped into the well between 8:10 and 8:37 p. m., August 28th. At 9:11, when the plug brought up on the float collar, pumping down pressure was only 700 lbs. That's pumpability, sure enough.

Bottom-hole temperatures in this field run 180° to 200°. An hour elapsed from the pumping of the first sack of 'Starcor' until the cement was in place in the hole. That's slow setting at high temperatures.

No Thinning Down

The safety factor against quick set is built into 'Starcor' at the mill. You don't have to thin down the slurry to be safe.

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And 'Starcor' hardens quickly—you can core out in 3 days. When this well was drilled out on the night of August 31st, they found a hard, uniform core, free from soft spots. Chemical analysis of cuttings showed no mud contamination. That means 'Starcor's gel-like consistency is your best protection against mud contamination.

'Starcor' is a Portland Cement—no admixtures used or needed. Specially made for deep holes and high temperatures. Use 'Starcor' on your next job—get the strength and safety of a true Portland cement, plus the added advantages of sulphate-resistance, mud-resistance, slow setting, rapid hardening. Made to measure for oil-well cementing.

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Your Lone Star and 'Incor'* Dealer can rush 'Starcor'† to you on short notice. Give it a chance to show you what a real Oil Man's cement can do. Lone Star Cement Corporation, Dallas . . . Houston.

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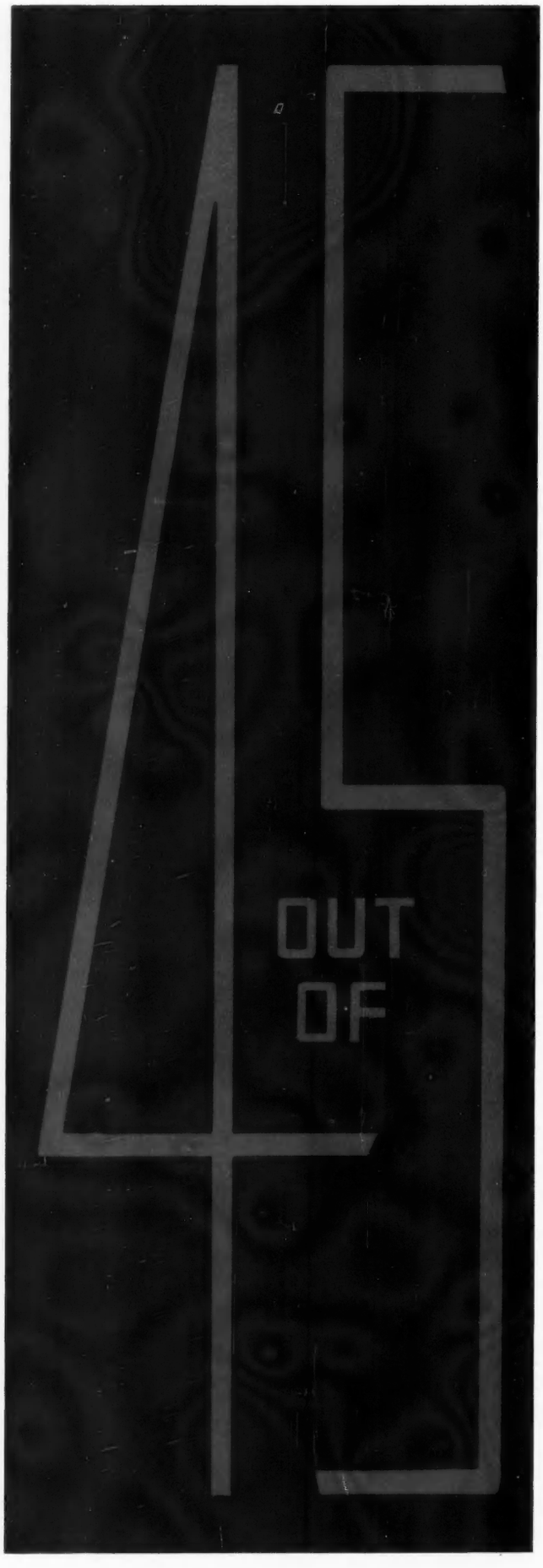

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Petrographic and Physical Characteristics

OF SANDS FROM SEVEN GULF COAST PRODUCING HORIZONS

By M. T. HALBOUTY,
Chief Geologist and Petroleum Engineer,
Glenn H. McCarthy, Inc., Houston, Texas

PART 1

A STUDY of the petrographic and physical characteristics of sands in the Gulf Coast region of Texas and Louisiana was conducted by the writer on sands either cored or obtained in cuttings from wells drilled to the top of the Middle Oligocene or deeper. In sands procured from samples considered as cuttings, special precaution was taken in being positive that the hole was pumped long enough to obtain the actual sand grains from bottom and not those that had already been cut by the drill. The shale and other larger pieces, such as limestone, sandstone and shell fragments, were sifted out of the sample ultimately used for study. In many cases, where cores were taken in sand either above or below the samples obtained from cuttings, the cutting-sample would be discarded and only cores used in the study. Of all the samples observed, only one-seventh were cuttings and the rest cores. The cutting-samples were used when, later, the study indicated that very little contamination was evident in the cutting-samples as compared to the characteristics of a true sand core. Such contamination was found to exist only in the microscopic field in which shale minerals were found to occur. Such an occurrence would be expected, as a large part of shale when drilled into is dissolved by the action of the mud, and the residue consisting of minerals and forams become, of course, intermingled with the cuttings in the circulating system.

In the course of study a number of samples were collected that contained *foraminifera* of definite diagnostic value, however, in each case, the *foraminifera* were picked and sifted out of the sample. This procedure was followed so that no means of having definite knowledge of the age of the sample was available to the writer during study of the samples. All samples were marked by numbers beginning from 1 to 315, the total number of samples studied being 315, and the depths and ages of these samples were filed away until the final results of the study were ascertained. In numbering the samples for study, no systematic procedure was followed, and each sample was picked at random, so that it was probable that a Frio sand of Lower Oligocene in age could have easily been marked "3" and a *MDv* zone sand of Lower Miocene in age marked "300."

Such precaution in concealing the identity of the geologic ages and depths of the samples was taken solely to prevent any influence of prejudice toward any formation or zone by the writer. The purpose of this paper is to determine whether or not the sands of certain geologic zones and formations in the Gulf Coast have enough petrographical or physical characteristics that they may be distinguished as "that or this" zone by petrographical or physical means instead of by the application of paleontological methods—in other words, by this petrographical study, the writer is concerned with the relative prospects of correlating the sediments of the Gulf Coast of Texas and Louisiana by means of an intensive study of the component minerals and physical properties of the sand bodies. Such a study, when completed by further research, would certainly produce sufficient data to understand the processes of sedimentation and those conditions which are expressive of each phase of the normal cycle of erosion that have and might have taken place in the course of complete deposition of Gulf Coast sediments. The results in such study may present enough clues in determining various structural conditions of importance in the Gulf Coast.

Henry B. Milner[1] as far back as 1923 stated in regard to such studies that "in application, the bearing of the subject is essentially stratigraphical; petrographical methods of correlating sediments represent nothing more than a useful (sometimes powerful) weapon of attack in stratigraphical problems where the normal paleontological evidence is obscure or totally lacking; *the methods in no sense replace the more exact processes of paleontological correlation which are, and must always be, of the first and fundamental importance in analytical geology.* It should be further borne in mind that such methods can only be used over restricted areas. On the other hand, stratigraphical research based simply on microscopic lithology and intensive paleontology is incomplete; the reconstruction of a geological epoch on such evidence withut an intimate knowledge of the sediments involved is a doubtful achievement. Paleontology teaches us organic variation; sedimentary petrography teaches lithological (inorganic) variation; the nature and extent or both factors are stratigraphically complementary to each other and are equally worthy of genuine investigation. To know a sediment thoroughly, in the widest petrological sense, is to know its origin, nature, mode of derivation, mineralogical composition, internal and external structures, lateral and vertical variations, mechanical analysis, porosity

[1] Henry B. Milner, "The Study and Correlation of Sediments by Petrographic Methods," Mining Magazine, Vol. XXVIII, No. 2, February, 1923. London, England.

and permeability, *quite*[2] *apart from the organic remains which may be present.*"

In the study of stratification, or the arrangement in layers of sediments, it is definitely noted that stratification and its final results depends entirely upon the composition, color, size of particles, climatic and seasonal changes, fluctuations of sea levels, etc., of the sediments that are being deposited. With this viewpoint in mind, the stratification of sediments may be direct or indirect. "Direct stratification takes place when physical and other changes bring different types of sediments to the sites of deposition. Indirect stratification results when sediments, after their initial deposition, are thrown into suspension by wave action and redeposited in layers based on differences in dimensions and specific gravities of particles."[7]

Studies of the mineral constituents of sands, their texture, shape, and permeability may throw some light on the deposition of the various strata and thus aid in the correlation of separate stratum layers.

Twenhofel[8] in his studies states that "stratification approximates parallelism to the surface on which deposition takes place. This may be horizontal or inclined; in most instances it is probable that there is some inclination, as the present surfaces of deposition are 'undulating.' The deposit formed in any particular century has marked basins, monoclines, and anticlines that are not due to deformation after deposition. The tendency is for the lower portions of a surface to receive thicker deposits, with the result that each successive stratum is deposited on a less inclined slope. This, however, is not always the case, and variations in deposition may make a new surface of greater irregularity than the old, and contemporaneous erosion of deposits may create extremely steep slopes. The steepest slope on and at which it seems possible for sediments to be deposited was given by Thoulet as 41°. Walther states that sediments may be deposited in orderly sequence upon surfaces inclined as much as 30°. Any agitation of the medium in which deposition takes place flattens the angle of deposition. Studies made on this problem by Miss M. B. Draper gave results as follows:

> The tendency is for larger grains to stand at slightly steeper angles under water than smaller grains.
>
> Angular grains tend to stand at slightly steeper angles under water than rounded grains of the same size.
>
> The highest angle attained was 43 degrees with sands, mesh 8-14, mixed angular and subangular. The lowest maximum inclination was 33 degrees, with rounded grains, mesh 100-200. For medium sized sand grains, mesh 28-48, 35 degrees was found to be the maximum for rounded grains and 38 degrees for angular grains.
>
> There is always a thinning of clay on the upper part of a slope regardless of the angle of inclination of the original slope on which the clay settled.
>
> Clay will not accumulate on a slope of 30 degrees except as it adheres to the material already there."

Twenhofel[9] further states that "the angle of deposition must also be considered in connection with the base level of deposition, as the finer materials are swept out over this surface and deposited in deeper water where the inclinations of the bottom are those of the continental slopes or the surface of previous deposits. As these deposits are made in waters which may be little agitated, initial inclinations may be large and are apt to be preserved. The sea bottom adjacent to a coast of submergence may have steep slopes and hence possibilities for high angles of initial inclination. It would seem that the gentlest initial inclinations should be made over the deep ocean bottom and extensive lowlands invaded by the sea. Very flat-lying deposits are also made on river flood plains, lake bottoms, playas, and in other shallow bodies of water."

It is highly possible that a complete study of sands

[2] Italics by Halbouty.
[7] Wm. H. Twenhofel, "Treatise on Sedimentation," Second Edition, 1932, page 603.
[8] Wm. H. Twenhofel, Op. Cit.
[9] Wm. H. Twenhofel, Op. Cit., page 605.

M. T. HALBOUTY

Mr. Halbouty, author of the accompanying article, which is the first of a series of seven discussing the petrographic and physical characteristics of sands from seven Gulf Coast producing horizons, was for several years chief geologist and petroleum engineer for Yount-Lee Oil Company. He graduated from Texas A. & M. College in 1930 with a B.S. degree in geology and petroleum engineering, and in 1931 he received a Master's degree in advanced geology and advanced petroleum engineering.

As chief geologist and petroleum engineer for Glenn H. McCarthy, Inc., Interests, he has available and is in charge of a chemical, mud and paleontological laboratory. He spent many hours in careful laboratory research and in assembling data before starting the actual preparation of the present series.

Halbouty has been a frequent contributor to various oil industry publications, and is active in several engineering and geological organizations. Besides his geological, engineering and paleontological work, which have considerably aided in the recent discoveries of two new oil fields, he also is known particularly for his heaving shale and rotary drilling mud achievements.

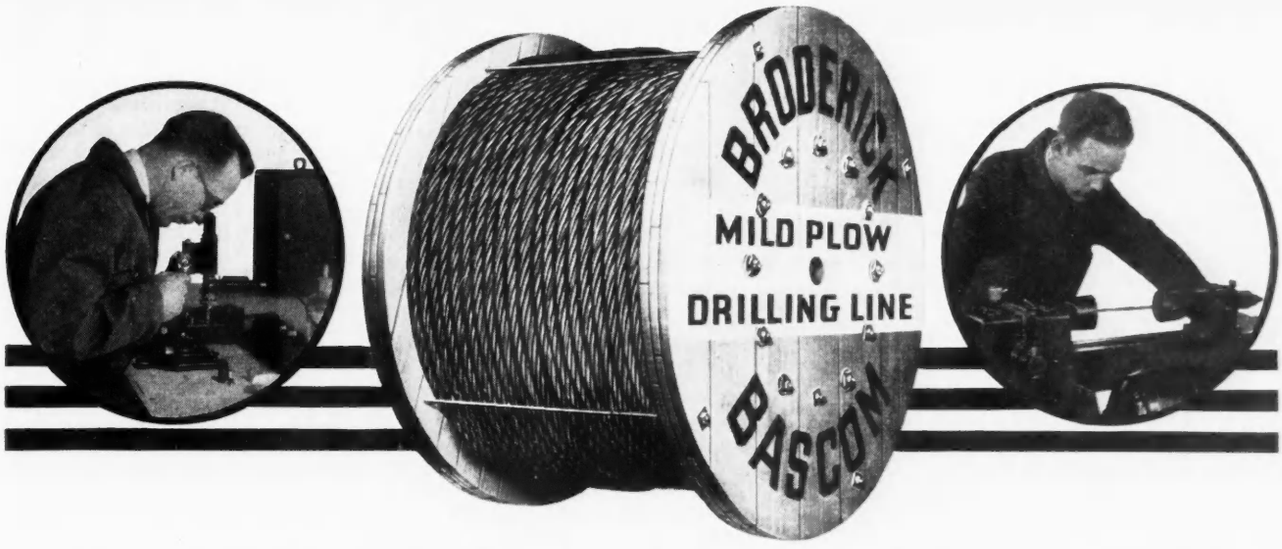

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TABLE 1

PLEISTOCENE	Beaumont	**(Rotalia beccarii:** small and worn)
	Lissie	
PLIOCENE	Citronelle	**(Rotalia baccarii:** small and worn)
	Fleming	**(Rotalia beccarii and Rangia johnsoni)**
MIOCENE	Fleming	**Potamides matsoni Zone**
		Rotalia beccarii: large
		MDv Zone—Lower Miocene
UPPER OLIGOCENE	Catahoula (Upper Ash—Non-fossiliferous)	
		MDv Zone—Lower Miocene
MIDDLE OLIGOCENE	Discorbis Zone	**(Discorbis vilardeboana)**
	Heterostegina Zone	**(Heterostegina antillea)**
	Marginulina Zone	**(Marginulina philippinensis)**
LOWER OLIGOCENE	Frio (Lower Ash—Rice Sands—Non-fossiliferous)	
	Vicksburg	1st Dark Carbonaceous Shales
		1st Shell Fragments
		Ammobaculites Zone
		Textularia warreni Zone
EOCENE: JACKSON	Whitsett	**Marginulina & Uvigerina cocoaensis & Valvulineria texana Zone**
		Massalina pratti Zone
	McElroy	**(Textularia hockleyensis)**
	Caddell	**Textularia dibollensis**
		Camerina &, or Operculina Zone
EOCENE YEGUA	Cockfield	**(Nonionella cockfieldensis)**
	Upper Saline Bayou	**(Eponides yeguaensis)**
EOCENE COOK MTN.	Crockett: Lower Saline Bayou	**(Ceratobulimina eximia)**
	Sparta (Sands: Generally non-fossiliferous)	
EOCENE MT. SELMAN	Weches	**Textularia smithvillensis**
		Lamarckina claiborensis
	Queen City (Non-fossiliferous)	
	Reklaw (Fossiliferous)	
	Carrizo (Non-fossiliferous—coarse grained sands)	

would eventually indicate enough criterion to determine the angle of inclination during deposition which in turn may be an important sedimentary factor in determining structures in the Gulf Coast. It is very evident that the geological profession will have to turn to other methods, whether simple or complex, in determining new oil bearing structures. Sedimentation and its factors of deposition will undoubtedly play an important part in the geological determinations and conclusions in the near future. Little or no attention has been paid to the use of stratigraphic methods in the development of oil fields. Every available well or surface sample should be thoroughly analyzed from every geological point of view and extensive research made on the possible structural data that these studies may produce. The analysis of the sands embodied in this report and the results are only the beginning of a wider stratigraphic study of formations that will be carried on in the future, and although the results may not be wholly conclusive, they give an estimate of what could be done by careful and detailed analysis of sand sections.

Geologic Age of Sand Studied

Samples were accumulated from the Pliocene formation down to the Upper Saline Bayou of Lower Yegua in age. Special precaution and emphasis were laid to cores, and special efforts were made in obtaining them. No cores were available in the Pliocene formation, as coring usually starts in the *MDv* zone of Lower Miocene age; therefore, the Pliocene cutting-samples were altogether eliminated. It was absolutely necessary to have cores, especially for the permeability measurements, and the study was naturally limited to those horizons from which cores were obtained.

In the *MDv* zone of Lower Miocene age, the samples were divided into two parts, representing the upper part of the zone and the lower part of the zone. A large number of cores were available from this zone, and as there is some difference in the lithology of the upper and lower *MDv* zone sands, the separation was accordingly proper.

A list of formations generally familiar in the Gulf Coast is listed in Table 1. The guide fossil of each zone is also listed.

The *MDv* zone is a new zone described and placed by the writer in the Lower Miocene.[3] This zone is based entirely upon the paleontological association of both Miocene and *Discorbis* zone *foraminifera.* The true *Discorbis* zone begins at the point where the Miocene *foraminifera,* specifically *Rotalia beccarii* cf. D'Orbigny, disappears and only true *Discorbis* fauna begins, characterized by *Discorbis vilardeboana* cf. D'Orbigny. The name *MDv* was therefore coined to represent that zone which is characterized by the inter-association of Miocene fauna and *Discorbis vilardeboana* and its associated fauna.

All zones studied for petrographical or physical data are considered as being fossiliferous except the Frio. In the majority of cases the Frio formation was non-fossiliferous being dominated by the so-called "Rice Sands," however, in a few wells drilled considerably down dip and near the cost line, the Frio was found to contain a few horizons of fossiliferous shale dotted by only siliceous *foraminifera.* However, as a whole, the formation is considered non-fossiliferous.

The second part of this series of articles will appear in the next issue of THE OIL WEEKLY. It takes up the laboratory procedure used by the author.

[3] M. T. Halbouty, "Geology and Geophysics Showing Caprock and Salt Overhang of the High Island Dome, Galveston County, Texas," A.A.P.G. Bull., May, 1935.

Pumping Fluid

WITH LEAST POSSIBLE GRIEF AND EXPENSE

By DON E. SCHNOBRICH,
Mid-Continent Pump Supply Company,
Perry, Oklahoma

IN the accompanying article, which is another of the series being presented by THE OIL WEEKLY on the practical care and maintenance of various pieces of oil field machinery, some of the important advances made in handling oil well pumps are described. In recent years, operators of shallow wells have realized pumping economies through adoption of a new reboring cycle for standard plunger-liner pumps with metal-to-metal seal. Moreover, changes in the method of handling such equipment in the field have reduced operating difficulties materially.

WHEN the late economic depression brought about the necessity for drastic reduction in production costs, there was probably no other item that loomed more conspicuously on the expense budget than the cost of pumping fluid from wells.

Harrassed production executives attacked the problem from every conceivable angle and, fortunately, were successful in most of them. One bone, however, remained lodged in their throats—the regular monthly bill for pumping equipment and its replacement still remained a figure of many digits, and a source of constant grief.

The first move in many instances was to abandon the regular high-priced equipment manufactured by national suppliers, and accept cut-rate merchandise.

In fairness, it might be said that most production superintendents relinquished their old, proved quality equipment with reluctance. That they accepted the cut-rate goods pessimistically, was of sound reason; but the necessity for reduction of pumping equipment expenditures was so imperative as to warrant investigation into any seeming solution.

The savings afforded by the lower original purchase price of the cut-rate goods was overtaken, however, by a sudden increase of repeated rod and tubing pulls; with a consequent increase in time, labor, and loss of production. Then, too, the inferior equipment necessitated frequent replacement and, in short order, the budget returned to its lop-sided state even more definitely in the red than before.

Next came an epidemic of mechanical monstrosities all which, more or less, were supposed to work wonders for the new expense budget. Most of these likewise proved costly failures and were eventually discarded as impractical.

This period of experimentation was concluded, however, with the development of several ingenious processes, most of which were directly traceable to the research efforts of the field executives in collaboration with their technical advisors and engineers. That these new methods were successful was borne out by the fact that, in practical use, pumping equipment expenditures were reduced by 25 to 50 percent.

The Reboring Cycle

Tackling first of all the regular Parker Type standard plunger-liner pump (Figure 1), manufactured by practically every major oil equipment supplier throughout the country, and in use by 90 percent of the larger producing companies, particularly on their shallow wells, a revolutionary process was applied that subsequently became known as "The Reboring Cycle," and which still allowed the use of the original equipment with no costly changes.

Fortunately, it was realized that all plunger-liner pumps, regardless of make or manufacture, operate on an identical working principal—that of a metal-to-metal seal between liners and traveling plunger or vice-versa.

Some manufacturers, quite justifiably, claim a superior product due to finer machining, quality of material, and the like. The fact still remains, however, that the underlying working principles vary but little in all cases.

Although various accessories are added by different manufacturers, all plunger-liner pumps (Figure 1), must consist of the following essentials[1]:

A—Interchangeable liner jackets manufactured from steel tubing, usually bored and reamed on the inside, heat treated, and threaded at both ends for collars. Manufactured in 5- to 15-foot lengths and from 2 to 4 inches in inside diameter.

B—Interchangeable collars, manufactured from steel and threaded to screw to jacket and tubing. Both collars have a finely machined internal facing which fits flush to the two end liners.

C—Interchangeable liners, usually of cast or alloy, the inside of which is bored and reamed absolutely concentric. Some are heat treated, and fitted with outside rims which aid in a more perfect alignment inside the jacket.

D—Plungers, manufactured from steel tubing and

[1]In use with the parts mentioned above are several types of valves that fit to plunger (Traveling) and Jacket (Standing). Inasmuch as these vary considerably in design and are not of major importance from an economy standpoint, they are not shown nor considered in any appreciable detail.

threaded at both ends for valves and fittings. Quality plungers are ground and polished with a high degree of accuracy.

In the illustration shown, a 2½-inch by 10-foot pump is used as an example. Inasmuch as the liners are usually of a 12-inch length, 10 would be required in this instance.

In the 2½-inch liner, it will be found that, in reality, the inside diameter is only 2¼ inches (2.250). Under normal conditions, especially in shallow wells, the starting plunger is a minus five (2.245) which allows a clearance of five thousands between liners and plunger. As the pump makes its production it undergoes an accompanying wear which necessitates periodical changes to a larger size plunger—thereby assuring a constant close fit throughout the life of the pump.

In shallow well pumping, where the cost of rod pulls are comparatively low, six plungers are usually utilized in the life span of the liners.

Starting with the minus five, plungers graduate up the scale in the following diameters: Minus three (2.247); Minus one (2.249); Plus one (2.251); Plus three (2.253); and Plus five (2.255). It will be noted that the "plus" size plungers are larger than the original inside diameter of the liner.

Once liners had been worn past the Plus five stage, they were usually removed from the jacket and discarded. It had been the practice of some companies, however, to salvage these used liners and rebore them forty thousands larger. These rebored liners, known as "Plus Forty's" were realigned in the jacket, fitted with new Plus Forty plungers, and run again as a new pump. As an economy measure, however, this was not particularly successful, as six new plungers had to be purchased together with the cost of reboring. In most cases the saving was not considered in favorable proportion to the time and trouble expended.

As a means of calculation for comparison with the "reboring cycle" explanation, the following might be judged a fairly general price average on standard plungers and liners:

2½-inch x 10-foot Standard Pump

Ten 2½-inch standard liners @ $4.00 each	$ 40.00
Six 2½-inch x 60-inch standard plungers @ $11.00 each	66.00
Total cost of complete pump with six plungers	$106.00

The new reboring cycle, however, made an astonishing reduction in these expenditures. First of all it was realized that if the original liner had been manufactured to an internal diameter of 2.210 instead of the regular 2.250, a series of reborings could be introduced that would offer the equivalent to three complete pumps. Probably the most favorable feature of the arrangement is that the process automatically provides for the plungers in such a way that three complete runs are obtained from each.

The process is illustrated in Figure 2.

With this cycle it will be seen that each set of liners are used three times in as many different pumps, as are likewise each set of plungers.

The following economy results:

Six new Plus Forty Plungers @ $11.00	$66.00
Regrinding Plus Forty's to Minus Zero's @ $2.75	16.50
Regrinding Minus Zero's to Minus Forty's @ $2.75	16.50
Cost of 18 plungers	$93.00
Average cost of each plunger	$ 5.20
Ten new Minus Forty Liners @ $4.00	$40.00
Reboring Minus Forty's to Minus Zero's @ $1.10	$11.00
Reboring Minus Zero's to Plus Forty's @ $1.10	$11.00
Cost of 30 liners	$62.00
Average cost per liner	$ 2.27

Previously we saw that the cost of a new 2½-inch x 10-foot standard pump complete with six plungers would total $106.00. Three complete pumps at this rate would amount to $318.00.

Now then, in comparison to the saving afforded by the reboring cycle, we find:

2½-inch x 10-Foot Pump

Ten 2½-inch liners at an average cost of $2.27	$22.70
Six 2½-inch x 60-inch plungers at an average cost of $5.20	31.20
Total cost of pump complete with six plungers	$53.90

Three complete pumps at this rate would total $161.70. In comparison to $318.00 it will readily be seen that a saving of almost exactly 50 percent results.

The new process worked out and was found to be successful, all that remained was to secure the new liner with an inside diameter of 2.210. Quality pump manufacturers immediately rose to the new situation. Not only was the new machinery necessary for the manufacture of the Minus Forty liner installed, but

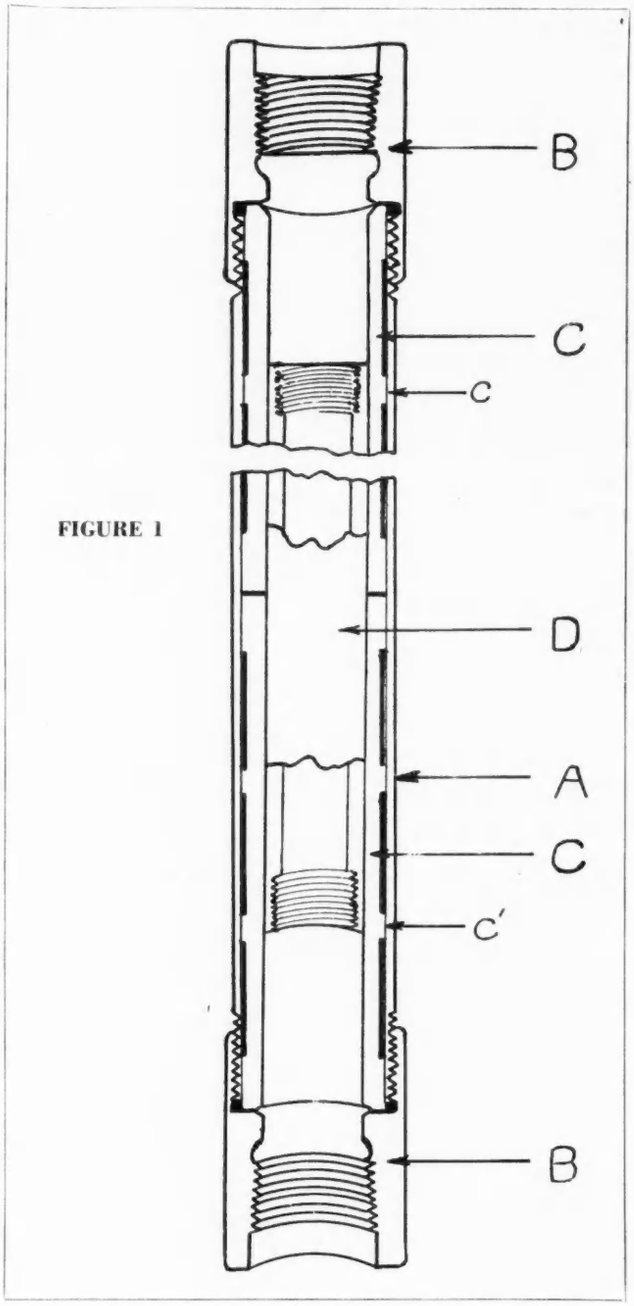
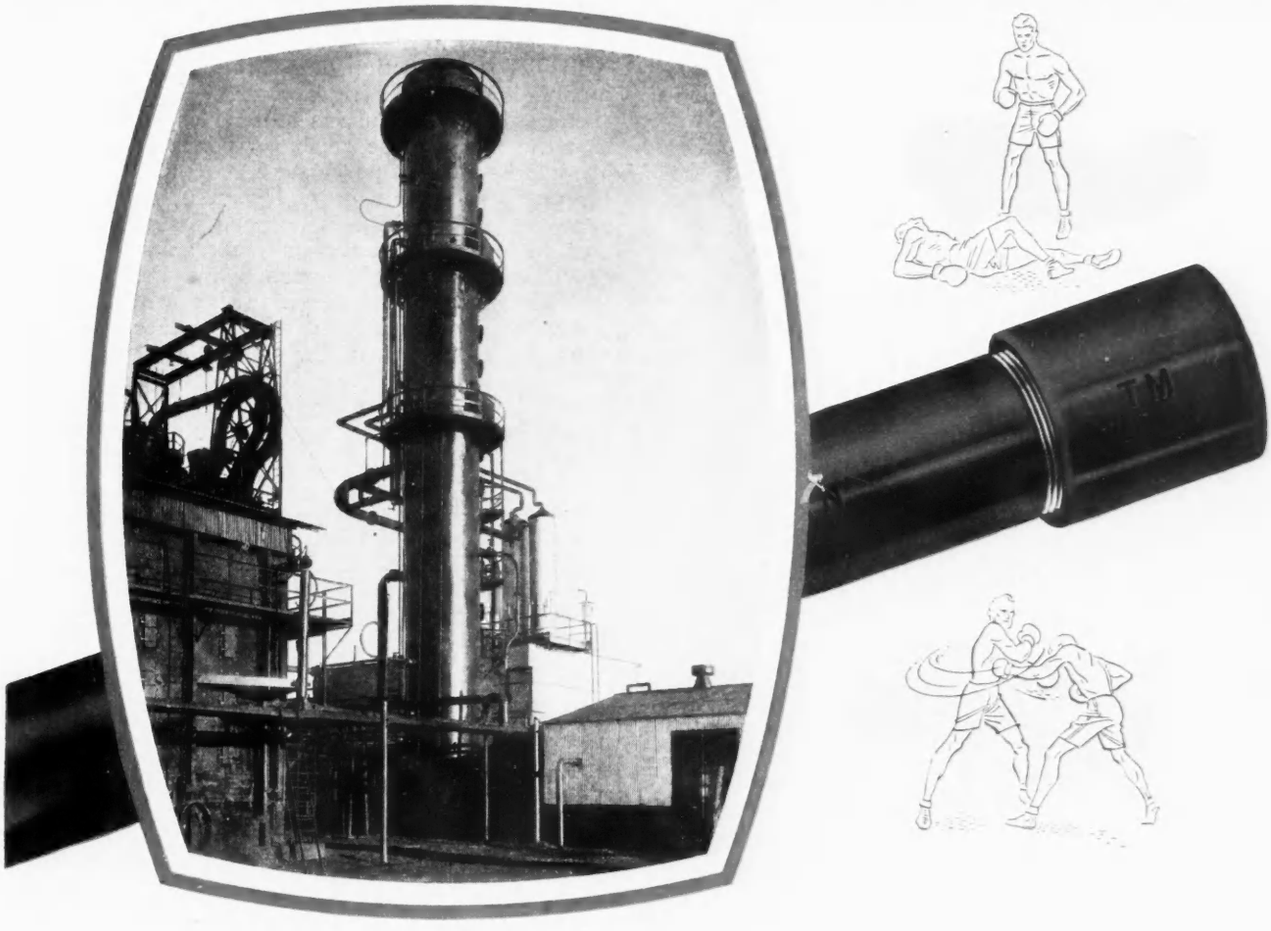


FIGURE 1

WHERE ORDINARY PIPE *TAKES A LICKING*



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There are many places in and around refineries where ordinary ferrous pipe falls before the attack of rust and corrosion — results in frequent replacement and higher-than-necessary piping costs. For such applications — acid sludge lines, clay slurry lines, coils for hot brine wash tanks, cooling coils and cooling towers, weak sulphuric acid lines, crude lines, power piping, and, as in the refinery above, untreated gasoline reflux lines, spray equipment in agitators, lines between and drains from acid treating towers — refinery engineers and operators use Toncan Iron Pipe for economy.

Toncan Iron resists rust and corrosion better than any ferrous material in its price class — it lasts longer — it cuts piping costs — because it is a carefully refined open-hearth iron with which copper and molybdenum are alloyed in correct proportion. Toncan Iron Pipe is clean and free from scale, mechanically perfect and easy to work and weld with no material effect on its high resistance to rust. If you're interested in licking corrosion, write for a copy of "Pipe for Permanence" — it tells the story in detail.

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also that necessary for the multiple regrindings and reborings.

As is inevitably the case, however, a few field men attempted to press the saving still farther and apply the new process to cheaper priced materials. It was speedily found that the inferior metals wore so badly and so rapidly as to wear past the actual reboring diameter, making further salvage impossible.

It was shortly discovered that the process could only be applied to the superior quality types of plungers and liners. The carefully compounded cast successfully withstood the repeated reborings.

Methods of Handling Equipment

The practical use of the new reboring cycle, however, necessitated a number of important changes in the handling of equipment, both new and used, in the fields.

In the matter of plungers it had been the practice formerly to make up the fittings and valves as tightly as possible. With the Standard and Plus Forty size plungers the thickness was such as to resist possible swelling of the ends to a large extent. With the reground Minus Forty, however, extra care had to be maintained as the comparatively thin sidewalls permitted swelling much more readily.

As each plunger is removed from the hole to be replaced by a larger size, special caution is exercised in its handling until its final usefulness is over. In the matter of fittings it was seen that the old fittings used on the standard plungers could be applied without modification to the new plunger sizes. However, if the fittings were extremely old, badly scarred, battered, or otherwise crooked, they would drag on the pump's internal surfaces sometimes causing serious damages. Especially was this true in the smaller inside diameter of the Minus Forty liners. This trouble was not to be experienced if the fittings were in a well kept condition, although several companies went so far as to procure smaller fittings especially manufactured for use with the new Minus Forty liners.

Although all plungers, regardless of size, are ground with a running bevel that amounts to several thousands of an inch to allow for possible swelling, it was found particularly difficult to make up the Minus Forty without some expansion. To remedy this situation a new type of plunger wrench was introduced which grips the slick surfaces of the steel plunger and yet does it without the use of scarring jaws. This wrench, of which there are several makes, also permitted a safe breaking off of the fittings without damaging the plunger surfaces. Deeply cut grooves or jaw indentations often score so deeply as to make further regrinding impossible. Likewise once the plunger has been removed from the well, it is never used for any purpose such as a cheater or lever. Utmost care is used in handling until the last regrind.

Care in handling the liners is also essential. It is the wise practice of many companies never to remove collars or liners from the jacket but invest this responsibility with the particular pump company then handling their business. In the broken down state, liners are especially susceptible to rust, nicking, and crushing from improper care.

Reboring and regrinding are likewise the duties of the pump company as are the rebuilding, overhauling, and realigning of the salvaged pumps. Although it has been the practice in the past for some oil companies to rebuild their own pumps, this work is now assumed entirely by the pump companies who maintain factory trained men and special equipment for this purpose.

In deep production, the "rod type" or "insert pump" is gradually replacing the Parker type although the latter's use is still widespread. The fact that the Parker type depends upon a screw anchorage to the tubing, necessitating a pull of the same for pump inspection or replacement, renders it unsuitable in the majority of deep instances. As the cost of tubing round trips from any considerable depth is of serious importance, the Parker type is usually confined to holes in which sand or similar troublesome conditions have been reduced to a minimum. In obtaining shallow production, however, the Parker type is generally accepted as the universal pump. A discussion of deep pumping economies will appear in a subsequent issue of THE OIL WEEKLY.

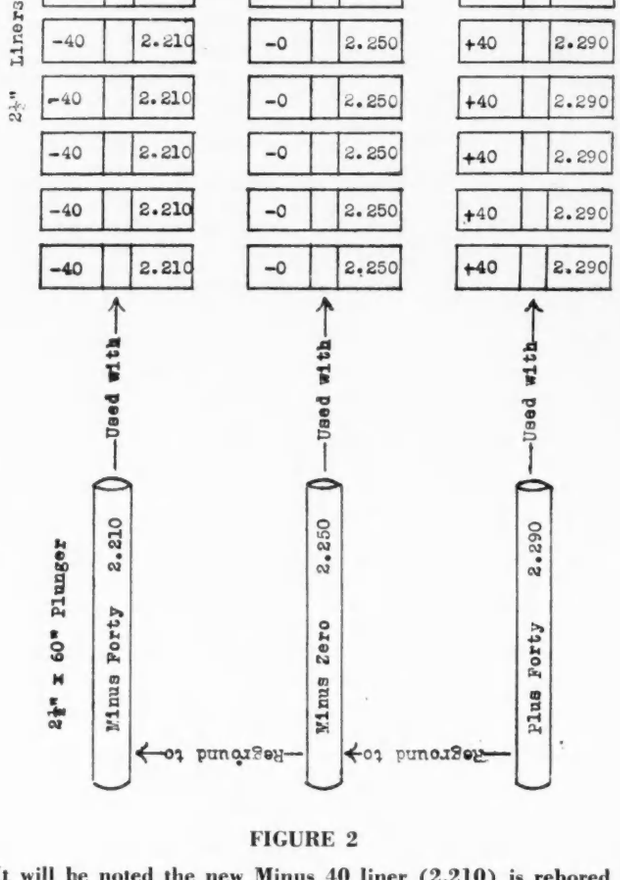
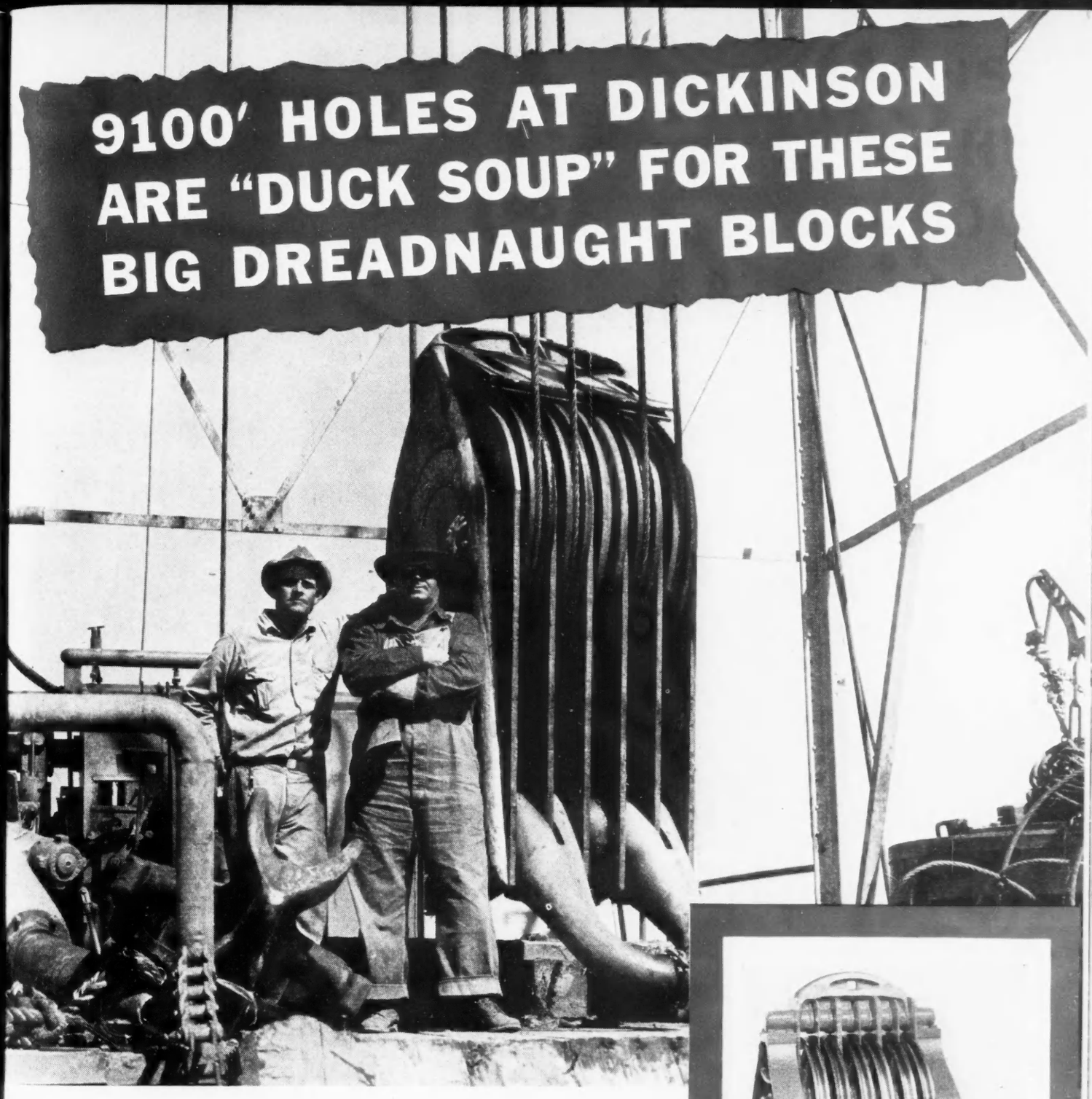


FIGURE 2

It will be noted the new Minus 40 liner (2.210) is rebored to standard size (2.250), now known as Minus Zero, and which in turn is bored to Plus Forty (2.290).

The new Plus Forty Plungers are reground to Minus Zero's and then to Minus Forty's.

9100′ HOLES AT DICKINSON ARE "DUCK SOUP" FOR THESE BIG DREADNAUGHT BLOCKS



AT DICKINSON, as in other deep producing fields in the Gulf Coast and Mid-Continent, these big DREADNAUGHT Drilling Blocks are handling the heavy loads encountered with the greatest of ease, and with plenty of capacity to spare. In fact, they're built with a high factor of safety to drill twelve, or even fifteen thousand foot holes.

Shown on the derrick floor is the Type "PY" DREADNAUGHT 300-Ton Capacity Traveling Block, with one sheave guard removed, as it was about to be moved to another location. Its five 42″ O.D. sheaves are of wear-resisting manganese-molybdenum steel. Line grooves are machined to absolute smoothness. The 7.873″ diameter center pin is forged from a special alloy steel, and is drilled to provide lubrication for each Hyatt heavy duty roller bearing. The becket and bail pin are of large diameter nickel steel. Streamlined construction, eliminating all projecting pin heads, nuts, and sharp corners, together with a low center of gravity, make it possible to run this block at high speed with safety.

The Type "KY" DREADNAUGHT 360-Ton Capacity Crown Block, mate to the Type "PY" Traveling Block, is shown at right.

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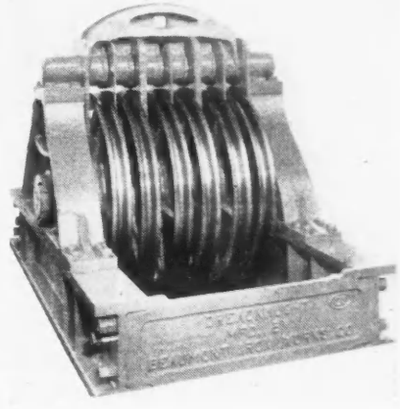
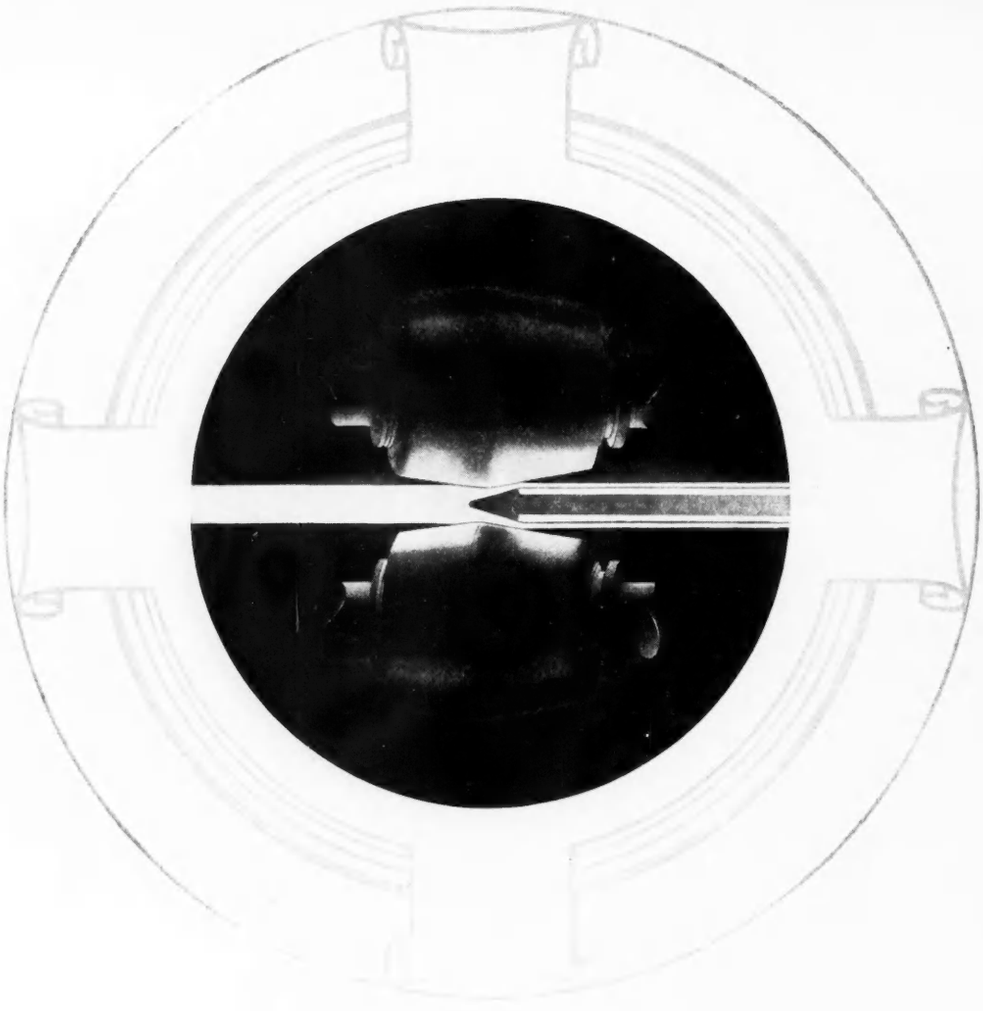
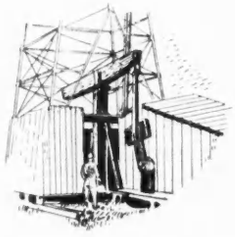


FEATURES OF THE TYPE "KY" DREADNAUGHT CROWN BLOCK

360 ton capacity . . . five or six 42″ O.D. manganese - molybdenum steel sheaves . . . special built Hyatt Roller Bearings . . . 7.873″ diameter forged alloy steel center pin . . . patented A-frame construction reduces overall height and distributes load evenly to all corners of derrick.



PRE-TESTED



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Proceedings A. P. I. Production Division
Annual Meeting, Chicago, November 9-12, 1936

A PRELIMINARY INVESTIGATION OF *Flowing Wells*

By EMORY KEMLER and G. A. POOLE,
Gulf Oil Corporation

THE low cost of producing oil from flowing wells makes it desirable to study the possibilities for increasing the flowing life of wells and for the more accurate control of bottom-hole pressures and gas-oil ratios by proper tubing design. This discussion deals with some of the aspects of this general problem, and gives the results of a preliminary investigation of flowing wells in the West Texas area. Some of the possible applications of data obtained from the flow tests of the wells included in the investigation are indicated. An analysis of data obtained from 34 tests on wells flowing under widely different producing conditions shows that the gas-oil ratio has a greater effect on pressure differences in the tubing than does the tubing size or rate of flow. The ratio of free gas to amount of gas in solution is also undoubtedly an important factor.

The pressure drop in the tubing is not caused entirely by friction as might be supposed, but is a combination of the effect due to friction and the difference in pressure due to fluid head. The difference in pressure is due mostly to the actual pressure head, and it is for this reason that the gas-oil ratio exerts an important effect through the aeration of the column and consequent changes in the static head.

The effect of tubing size, except for very large or small rates of flow, will tend to cancel out; as the pipe size is increased, the friction decreases, but the slippage increases, so that the net change is unimportant as compared with other factors.

THE low cost of producing oil during the flowing life of a well makes it desirable to flow a well naturally as long as possible. Since there is little information available on the laws governing the behavior of flowing wells, it has been impossible to predetermine the best operating conditions for such wells. The tests discussed in this report were made to establish the characteristics of flowing wells, and to determine if the information which can be obtained from a detailed study would result in a longer flowing life and more efficient use of reservoir pressure and energy during the flowing period.

Among the problems having immediate application and of general interest, the following were chosen for study during this preliminary investigation:

1. A study of formulas for calculating reservoir pressures, flowing rates, and well characteristics, with a view to determining their range and field of application.
2. The use of bottom-hole flowing pressure vs. production curves, for the determination of the well characteristic and the maximum production possible from a given well.
3. A method of determining the flowing life and future rate of production of flowing wells.
4. The collection of data on the pressure drop in flowing wells, to be used in:
   a. determining the proper size of tubing for any set of flow conditions;
   b. determining the proper flow rate for a given flow string and set of reservoir conditions.
5. The determination of flowing pressure vs. depth curves, to be used to study how a well flows.
6. To determine if it is possible to use the build-up curve as obtained from a recording pressure bomb, for the determination of the closed-in or maximum bottom-hole pressure.

Experimental Equipment and Methods

In this series of flow tests a newly-developed recording bottom-hole pressure gauge was used for determining the flow pressures.[1] The tubing pressures in some cases were taken with a recording-pressure gauge. Where possible, these were checked by raising the recording-pressure gauge to the top of the well and leaving it there for a time to get a recording of the tubing pressure. The results indicated that this method is desirable; because a recording-pressure gauge, unless carefully checked each time, will not give pressure accurate enough for the purpose. The gas volumes were determined by the use of an orifice well tester placed on the gas outlet of the separator, and oil production was determined by measuring the level in the lease tanks. The velocities in the tubing strings were calculated by an empirical method which is not absolutely accurate, since it did not take into account the gas in solution. As a consequence, the actual velocities, in general, will be lower than the calculated velocities. It is hoped in future tests that truly representative samples can be obtained at various points in the tubing string by the use of a bottom-hole sampler, so that the amount of gas in solution can be determined thereby, permitting accurate calculations of velocities. Figures 1, 2, and 3 were used for calculating the velocities in 2-inch, 2½-inch, and 3-inch tubing strings, respectively. These figures are based on the assumption that all gas was free gas at the particular pressure.

Formulas for Calculating Well Characteristics

A considerable amount of work has been done on the theoretical investigation of idealized flow systems. While such idealized systems seldom, if ever, occur, the results of theoretical studies based on them are very useful. The formulas serve as a yardstick for comparing wells

and for studying the effect of various factors on the well performance.

The formulas for calculating production rate, the well characteristic, and permeability will be treated here. Other formulas will be discussed later in the particular sections to which they apply

For the ideal case of a well producing a dead fluid, or for a well in which the effect of the gas on the law of flow can be neglected, the production rate can be calculated from the equation[2]:

$$Q = C(P_m - P) \quad \ldots\ldots (1)$$

provided the rate of production is such that the flow through the formation is viscous.

In this equation:
Q = production rate.
C = well characteristic.
P_m = reservoir pressure or closed-in bottom-hole pressure.
P = pressure at face of sand when flowing at rate Q.

The well characteristic C is a constant for a given system, provided the conditions mentioned above are adhered to. This constant depends on the dimensions of the system and on the properties of the sand and fluid. C can be expressed in terms of these quantities[2] as:

$$C = \frac{2\pi kb}{\mu \log_e \frac{r_b}{r_w}} \quad \ldots\ldots (2)$$

for a radial flow system such as encountered in an oil sand.

Where:
k = sand permeability.
b = sand thickness, feet.
μ = absolute viscosity.
r_b = well bore radius, feet.
r_w = well drainage radius, feet.

The permeability k can be calculated from the equation (2):

$$k = \frac{\mu Q \log_e \frac{r_b}{r_w}}{2\pi b(P_m - P)} \quad \ldots\ldots (3)$$

This equation holds for the condition that the flow is viscous and radial, and that the well completely penetrates the pay formation. Correction factors are available,[2] and the true permeability can be calculated provided the condition that the flow be viscous is satisfied.

The above equations reduce to the following forms if the quantities are expressed in engineering units:

$$k \text{ (Darcy's (c.g.s.* units))} = 5{,}100 \frac{\mu_f Q_f \log_e \frac{r_r}{r_b}}{b_f(P_r - P)} \quad \ldots\ldots (4)$$

$$k_f \text{(f.p.s.† units)} = 5.5 \frac{\mu_f Q_f \log_e \frac{r_r}{r_b}}{b_f(P_r - P)} \quad \ldots\ldots (5)$$

$$C_f = 0.000196 \frac{kb_f}{\mu_f \log_e \frac{r_r}{r_b}} \quad \ldots (6)$$

$$C_f = 0.182 \frac{k_f b_f}{\mu_f \log_e \frac{r_r}{r_b}}$$

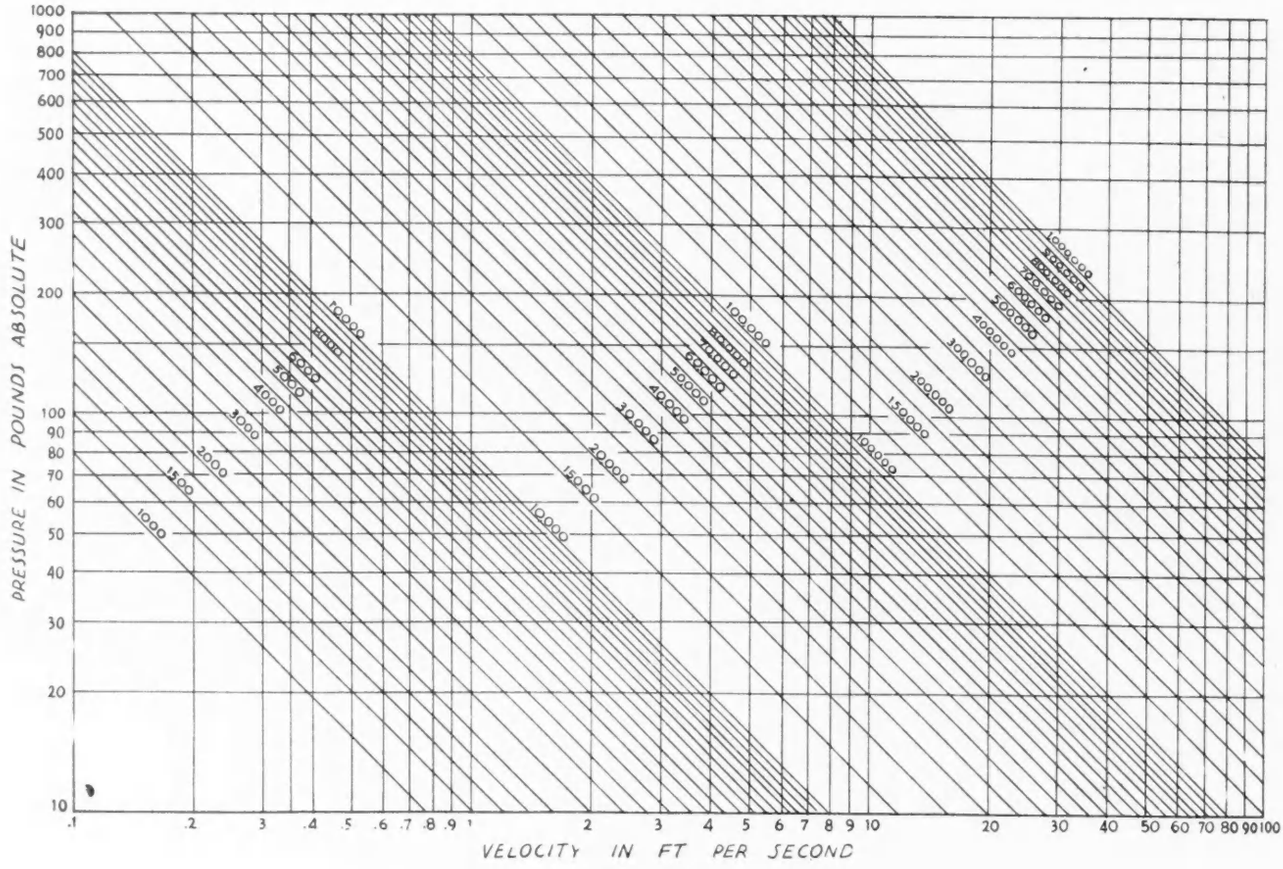

FIGURE 1
Velocity-Pressure Chart, 2-In. Tubing.

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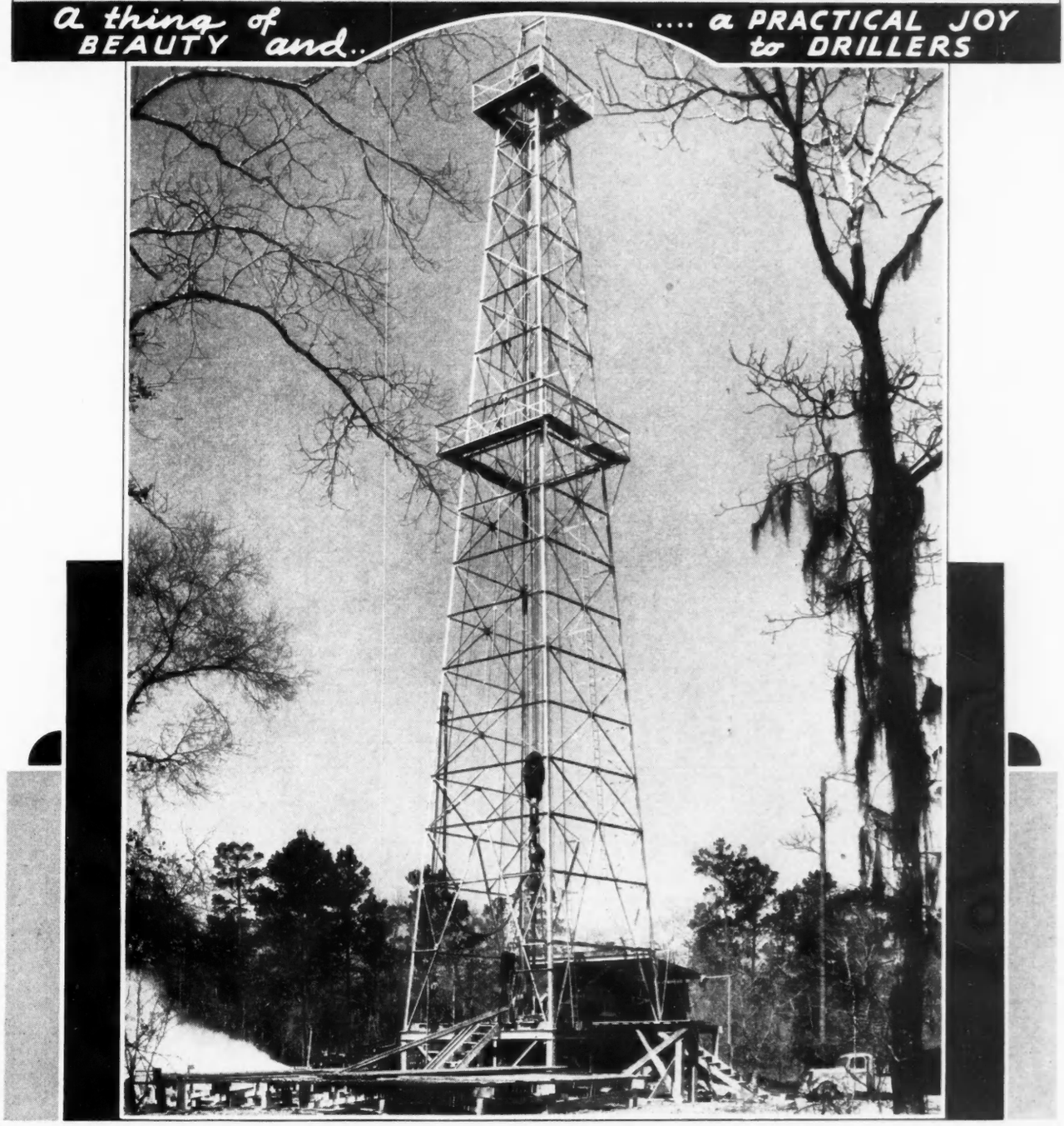

122-ft., 537,000 lb. capacity galvanized MIW derrick on a 7-ft. galvanized MIW sub-structure, being used on the Gulf Coast.

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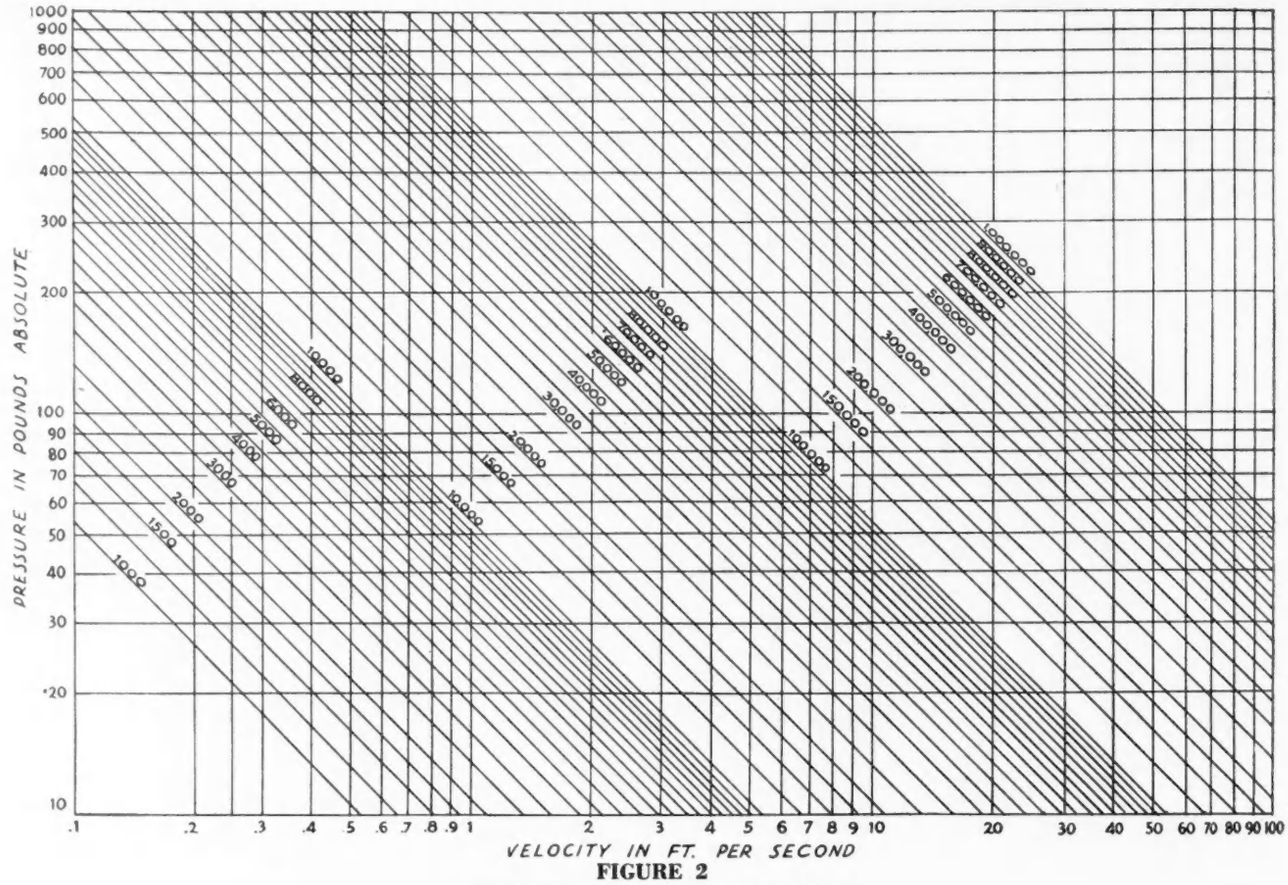

FIGURE 2
Velocity-Pressure Chart, 2½-Inch Tubing.

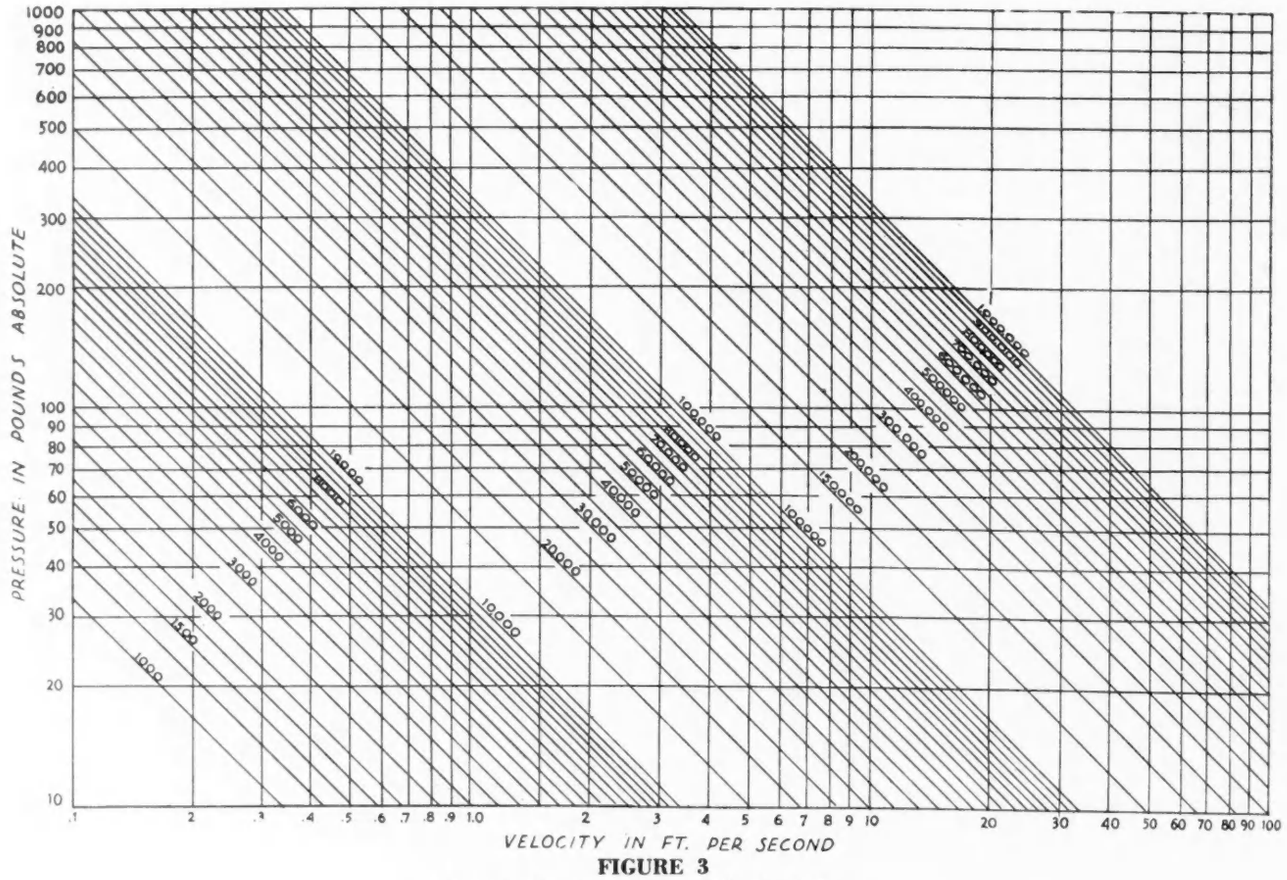

FIGURE 3
Velocity-Pressure Chart, 3-Inch Tubing.

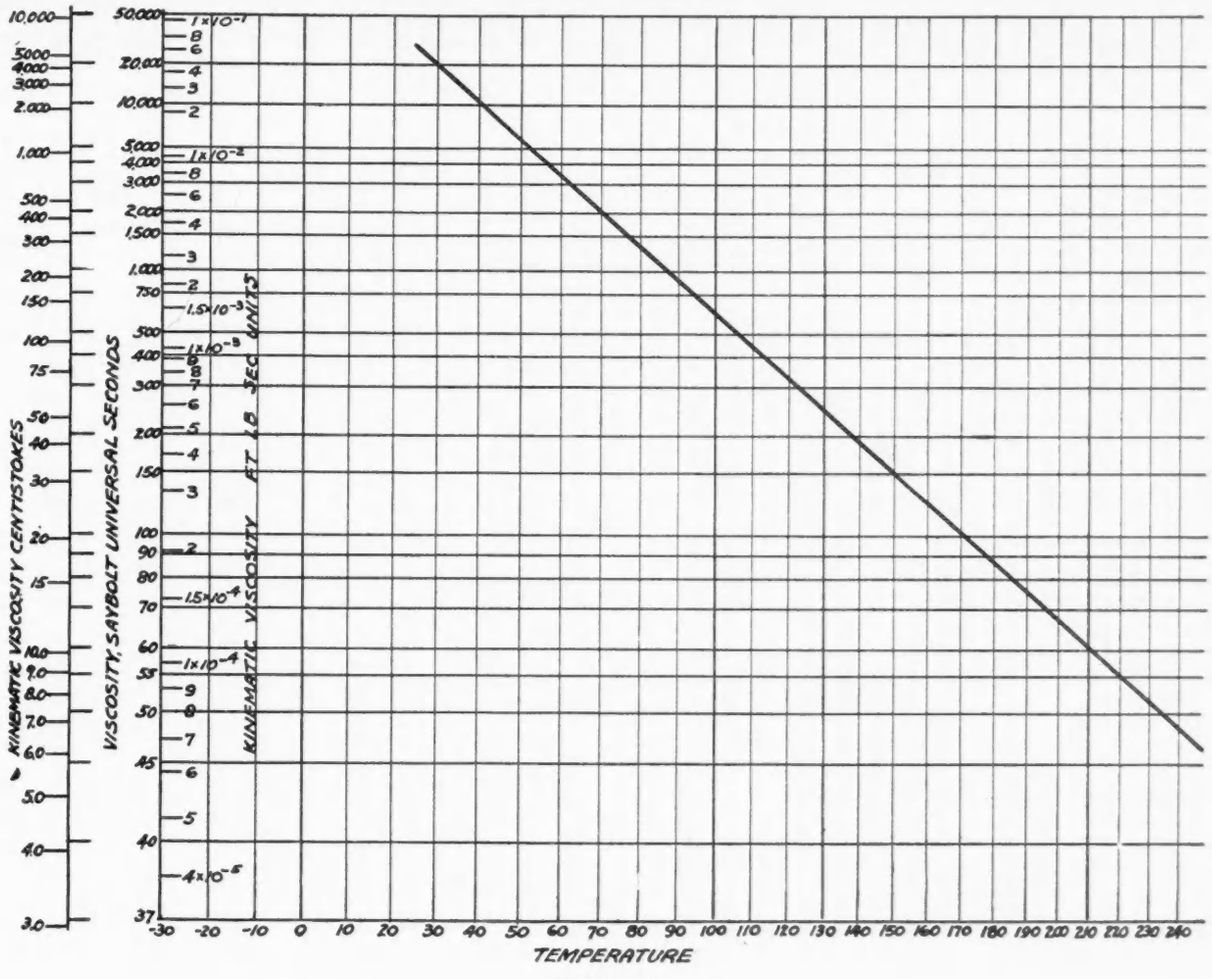

FIGURE 4
Viscosity-Temperature Chart. A.S.T.M. Tentative Standard D341-32T.

Where the subscripts *f* denote that the quantities are expressed in terms of foot-pounds-second or engineering units. Table 1 gives a tabulation of the various symbols and their units in both the c.g.s.* and f.p.s.† systems. In the above equations:

μ_f = absolute viscosity, in f.p.s. units.
Q_f = flow rate, in bbl. per hour.
b_f = sand thickness, in feet.
P_r = reservoir pressure, in lb. per sq. in.
P = bottom-hole flowing pressure, in lb. per sq. in.

TABLE 1
Definition of Symbols and Units

Symbol	Quantity	C.G.S. Units	F.P.S Units
P	Pressure	atmosphere	lb. per sq. in.
Q	Flow rate	cc. per sec.	bbl. per hour
μ	Viscosity	centipoises	f.p.s. units
r	Distance or radius	cm.	ft.
b	Sand thickness	cm.	ft.
k	Permeability	$cm.^2$	$ft.^2$
C	Well characteristic		$\frac{ft.^5}{lb. \times sec.}$
t	Time	sec.	sec.

Figure 4 is a conversion chart for changing the kinematic viscosity in Saybolt seconds to f.p.s. units or to centistokes. The absolute viscosity is equal to the kinematic viscosity times the density. For the c.g.s. system of units, the density is equal to the specific gravity, so that the conversion formulas become:[3]

Absolute viscosity (c.g.s.) (poises) (1 poise = 100 centipoises) = kinematic viscosity (c.g.s.) (stokes) × specific gravity.

Absolute viscosity (f.p.s.) = kinematic viscosity (f.p.s.) × density (lb. per cu. ft.) = kinematic viscosity (c.g.s.) (stokes) × specific gravity × 0.0672.

Ordinarily, the viscosity of the oil will be measured at only two temperatures. If the viscosity in Saybolt seconds is plotted against temperature on an A.S.T.M. viscosity-temperature chart, the resulting curve will be a straight line over the ordinary temperature range.[4] Using Figure 4, the viscosity at any required temperature can be found.

The Use of Bottom-Hole Pressure Vs. Production Curves for Determining Well Capacity

The use of the well potential in the determining of the allowable production makes a knowledge of the behavior of a well assume an important role in the economic recovery of oil. There are two possible methods by which the potential of a flowing well might be increased. The first is to reduce resistance in the discharge line to a minimum and to select the proper tubing proportions to make the pressure drop in the tubing a minimum. This combination will then give the minimum pressure on the face of the sand when the well is flowing and, conse-

* Centimeter-gram seconds.
† Foot-pound seconds.

quently, a greater production which will result from the greater pressure differential in the formation. In most cases not much increase can be brought about in this manner. In some cases such increases might be possible, but the resultant loss of reservoir energy to cause a higher gas-oil ratio will not be desirable.

The other possibility is to install a pump and put the well on the beam during the potential test. If the pump has sufficient capacity to handle the production, the pressure at the face of the sand can be reduced to a minimum, and the maximum production obtained.

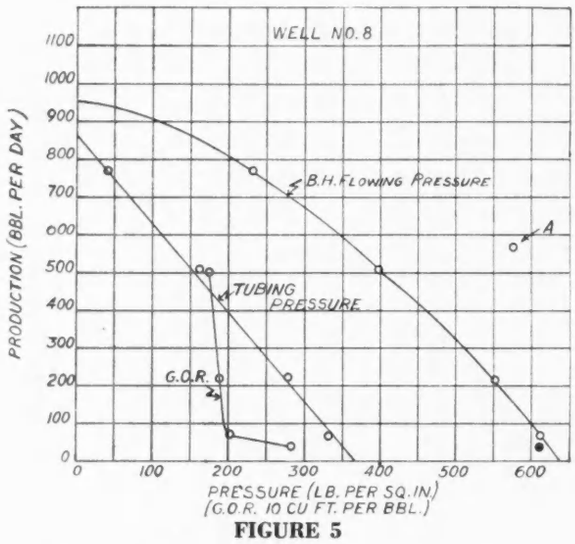

FIGURE 5

Figure 5 shows the production vs. flowing pressure curve for well No. 8; 770 barrels per day is the production at which the well flowed when wide open. This corresponds to a steady state potential test on this well. The extrapolated pressure vs. production curve shows that the well would probably produce 950 barrels per day if a pump having sufficient capacity were installed and the well pumped off bottom.

The production rate which can be obtained from a well depends on both the history of the well immediately before the test is taken and on the length of time over which the test is made. If the well has been shut in and the bottom-hole pressure allowed to build up, the production rate will be quite high when the flow test is started, and will decrease with time until a steady state condition is reached. The reason for this apparent high production rate at the start of the test is that most of the oil is being produced from the well bore or the sand in the immediate vicinity of the well bore, and not from the reservoir proper as is the case when the pressures have reached a steady condition. This condition is illustrated by point **A** of Figure 5. It was desired to obtain an additional point on the production curve for well No. 8. There was not sufficient tank room at the time to let the well flow until the pressures in the sand could become equalized, so a short test was taken soon after the well was started flowing. The results show that the well flowed at a rate of 570 barrels per day with a bottom-hole flowing pressure of 575 pounds per square inch, which is only about 50 pounds per square inch less than the reservoir pressure in the vicinity of this well. This one particular test brings out very clearly the necessity of having steady flow conditions in a well for determining data on the behavior of the reservoir. In some cases, however, these transient conditions may be desired; but it is necessary to have complete information on both the conditions under which they were obtained and on the previous history of the well. The indications are that higher potentials can be obtained by closing wells in before the test and letting the pressure build up to the reservoir pressure.

This article will be concluded in an early issue of THE OIL WEEKLY.

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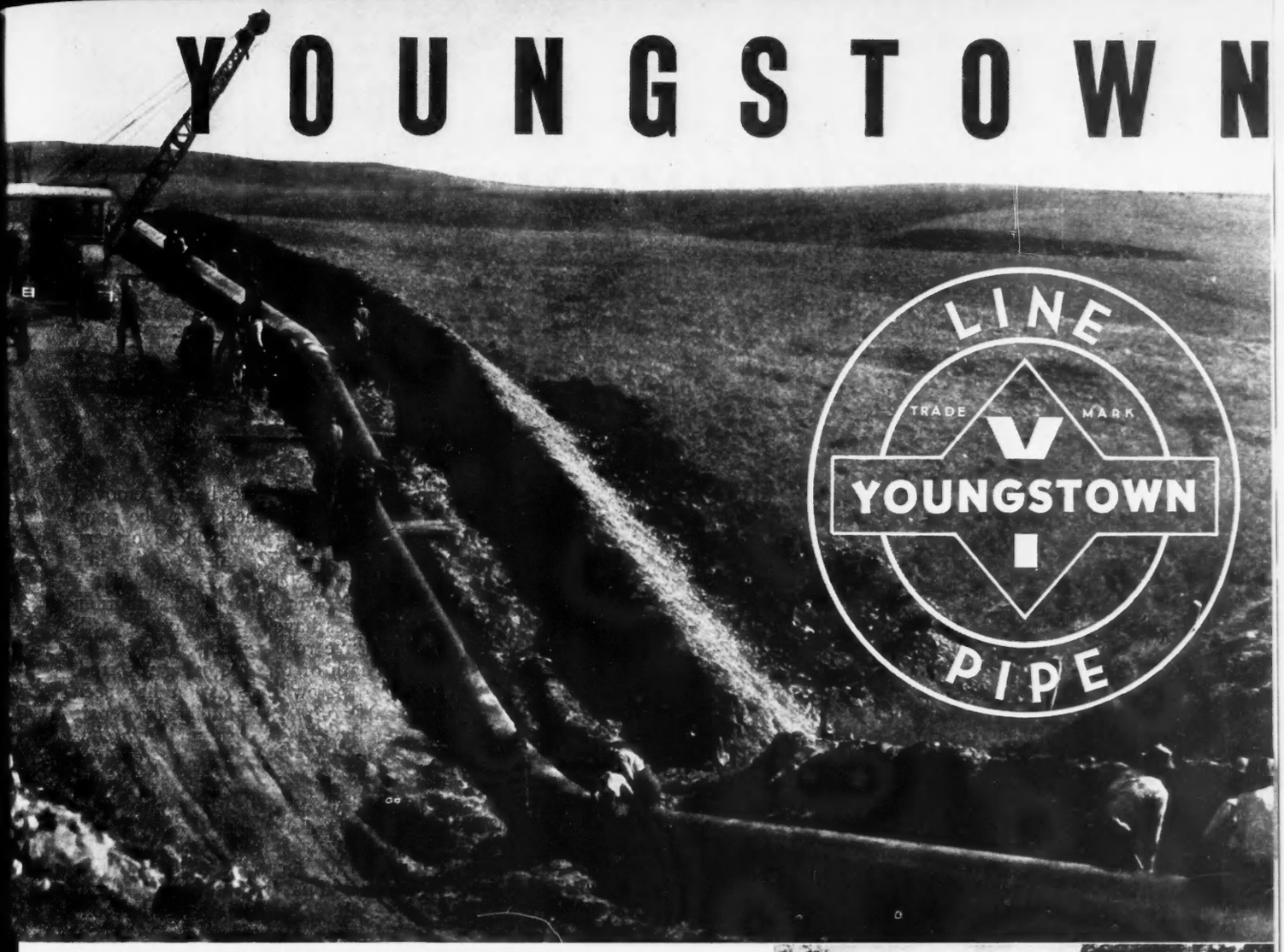
[3] Emory Kemler and L. L. Thomas, "The Flow of Oil in Pipes," *Petroleum Eng.* **5** [8] 43 (1934).

[4] Kemler and Thomas, *ibid.* (Art. 2) 46.

When the wildcat is drilled on a jungle river, the mat foundation necessary for the derrick represents only a small part of the delay and expense in Venezuelan exploration.

YOUNGSTOWN



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Reconditioning

WYOMING-MISSOURI CRUDE LINE RECLAMATION NEARS COMPLETION

By FRANK TAYLOR, Staff Writer

ONE of the largest pipe line reconditioning jobs ever undertaken is nearing completion on Stanolind Pipe Line Company's line from Welsh station, east of Casper, Wyoming, to the pump station on the main transmission system at Freeman, Missouri. The task of completely servicing this line, which has not been used for crude transportation for a number of years, includes the relaying of many stream crossings, checking the condition of the line through test holes put down in relation to probable points of line deterioration and the spot-welding of removed sections. Particular attention has been given all road crossings and tests have proven that these are points of line weakness.

This line was laid originally in 1923 and follows the valley of the North Platte through eastern Wyoming and southwestern Nebraska and through northeast Kansas in a nearly direct line to the Freeman station. The line was of 12-inch screw pipe throughout. A single coating of protecting asphalt was applied where it was evident that corrosive subsoil had been cut.

Various sections of this line have been used for a number of years for natural gas transportation and the drips necessary for this purpose are being removed during present work. Laterals connected to the main line for gas distribution are being removed. Northern Utilities Company, which had 272 miles of the line under lease in Wyoming and Nebraska, paralleled the line with a system of their own to handle distribution. Other natural gas companies have engaged other facilities to handle less extensive requirements.

Due to the unusual length of the line being repaired, the customary manner of crew progression has been displaced with sectional work. A number of repair gangs are active along the line. Work is being concentrated at river crossings where the time required for reconditioning is greater than at other points. Those men replacing road and small stream lines have completed as many as seven replacements in a single week. Equipment and materials for the latter work are moved from location to location by truck, pipe being brought to the locations from the nearest rail junction only when the line removed is beyond reconditioning.

The most extreme cases of line electrolysis were

Badly pitted joint of pipe after having been reconditioned by welding. Before being moved from position welded spots are electrically ground to make the surface of the pipe uniform.

THIS SOUND FILM* Revolutionized GEOPHYSICAL EXPLORATION

THE RIEBER SONOGRAPH SYSTEM

The Rieber Sonograph is a radically different, comprehensive approach to the entire problem of defining earth structures by reflection shooting. It obtains results long hoped for, but never before realized.

Records of earth vibrations, made on a sound film, are read and interpreted by a precise machine —replacing the conventional practice of inspecting by eye the wavy lines on bromide paper in an effort to identify significant waves.

DEFINES COMPLEX STRUCTURES

The search for oil is turning toward the more complex structures containing recurrent folds, steep dips, faults of all sorts, overlaps, truncated beds and unconformities. And relatively simple structures are often complicated by irregular sedimentation, or covered by fan deposits.

In such areas the usual "reflection seismograph" finds tough going. Following the explosion at the surface of the earth, a multitude of vibrations rebound from all parts of the structure below. Some are feeble and impossible to see on the bromide paper record. In other cases, groups of waves arriving from several different directions are recorded as a mass of tangled lines, which the eye scans in vain for identifiable reflections.

Yet these vibrations are syllables of the language of the earth. Each has a meaning, and all must be recorded if a full understanding of the structure is to be obtained.

No vibration returning from a structure can escape the Rieber Sonograph. Each one is caught and preserved for study by the expedient of sound recording, just as the motion picture industry preserves every shade of tone and expression in the voice of a singer or an actress.

ACCURATE INTERPRETATION

This system for recording reflected waves on sound film produces for the first time a record which can be read and interpreted by the photo-electric cell. The Rieber Photo-electric Analyzer impersonally solves the complex wave patterns that tell the story of the structure. From a tangle of sound-recorded waves it singles out any one or any group, determines accurately the direction and time of arrival of each, and is not baffled by overlapping wave trains. The Analyzer is a tireless assistant to the geologist and geophysicist in satisfactorily mapping structures which formerly were thought unshootable.

A limited number of field parties is available for work in California, Mid-Continent and Gulf Coast areas.

*SOUND FILM Recording!

Only the Rieber Sonograph operates on this revolutionizing principle with the reflection waves recorded on sound film. The system and apparatus are fully protected by United States patents. . . . Other patents are pending.

PHOTO-ELECTRIC ANALYZER
This is the supersensitive and precise apparatus that reads Rieber Sonograph films. It can do what the human eye cannot do — identify and tabulate separately the wave reflections in the most confused record.

RIEBER Laboratories

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HOUSTON, TEXAS

In western Nebraska where surface water is highly impregnated chemically, unusually severe pitting was uncovered. Periodic receding and raising of water level was of primary influence in the electrolytic action.

found in southeast Wyoming and southwest Nebraska where the line closely follows the North Platte valley. Backwater evidently returned through the original ditch considerable distances to promote excessive reaction. In addition to the successive lowering and encroachment of the water level, surface and streams of the region are heavily chemicalized. Common alkalies are of wide occurrence. In many instances sections of pipe were replaced although by far the greatest percentage was reconditioned by welding.

Complete pipe repair shops have been put in operation at Mitchell and between Oshkosh and Keystone, western Nebraska. They are equipped with cleaning machines, welding units and other machinery. Removed pipe is transported to these locations where is is completely inspected and made ready for further service. These plants have been operated day and night to care for the huge volume being handled.

An important major replacement is the renewal of the river crossing south of Blue Rapids, Marshall County, Kansas, where the line crosses Big Blue. At this point it was not only advisable to relay the crossing with new pipe, but it was determined that the downstream bed of the river had washed to a new channel. As a result the previous crossing was discontinued and a new site chosen some distance upstream. In order to protect this latter line from possible harm through the action of backwater, dredges have been used to clean accumulated gravel from the stream sides to assure continuance of the present course.

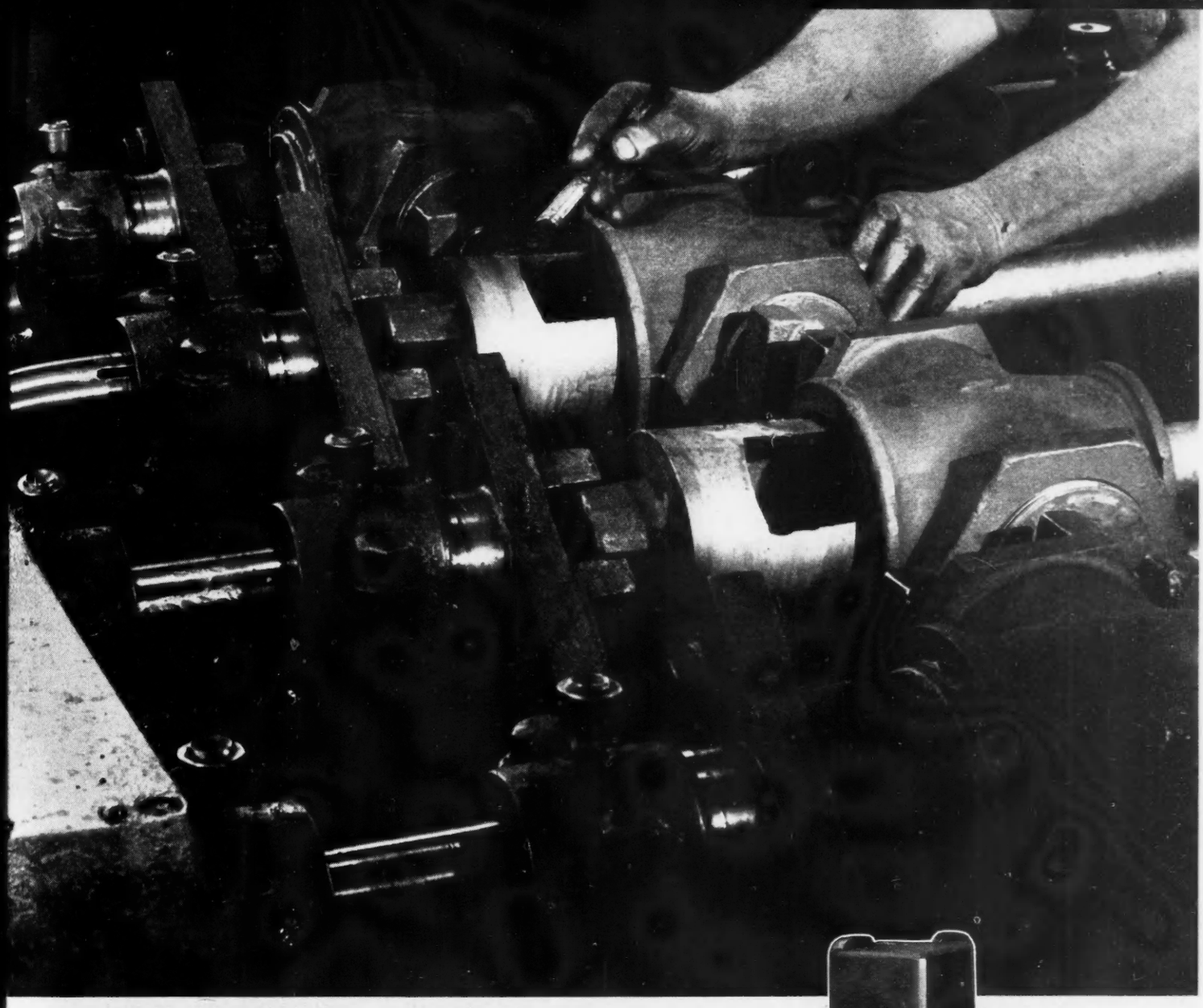
The new line is being laid a half-mile north of the old crossing and will consist of a single line with about 10 1,000-pound river clamps. Each clamp being used is of the twin type held by 14 bolts. The lower section is swung beneath the pipe by a side winch on a tractor and the upper section worked into place in the same manner. Two 1,000-pound test gate valves are being installed at each side of the river, a short distance above high water.

Four 40-foot joints of line pipe comprise the central portion of the river crossing, these having been roll-welded and applied with protective coating previous to being placed in position. Coffer dams were impractical because of the volume of water flowing and the dangers of a sudden increase. As a result, the bed of the river was prepared by the use of a dragline. As much as possible of the previous crossing was removed by the dragline by attaching to steel bars penetrating the line. The machine was also used in placing the completed section, which was swung into place from a location slightly upstream from its final position. The line rests 5½ feet beneath the gravel bed of the river.

At this location the removed line was reconditioned for use, pits being electrically spot-welded. The only new pipe installed was in the center of the crossing, the removed pipe left over being shipped to other locations for replacement of bad joints. Pits in the pipe near the river were very irregular as to location, size and depth. Maximum depth was about 3/16-inch and maximum area less than 4 square inches. All of the salvaged line was made available for future use.

Certain dangers were encountered in the cutting of the old line, but through the care exercised there were no serious injuries. Although the lines had been blanked off in section for use of natural gas distributing concerns, the entire line was checked for pressure with particular attention to accumulation of natural gasoline in drips and low sections not equipped with blowoffs. Condemned line and drips in sections that might contain dangerous mixtures were cut by hack saw rather than by torch.

With the line removed, collars were cut off by acety-



JARECKI "TIME-TESTED" STOP COCKS *in the making*

A perfect fit between plug and body of Jarecki Iron Stop Cocks is insured by grinding and lapping each plug and body together on the special machine shown above. The machine holds the body stationary while rotating the plug first in one direction and then in the other, and periodically relieving the pressure between the surfaces. Each plug is assembled with the body in which it was ground to insure a perfect seat.

Care in manufacture together with skillful design characterize all Jarecki products which include all types of iron body and bronze valves, malleable iron, cast iron and bronze pipe fittings, and oil well specialties. Inquire about them at our nearest store, or write for our general catalog.

Essex Lock Cock
Fig. 347-A

Iron Body and Bronze Valves.

Malleable Iron, Gray Iron, and Bronze Pipe Fittings.

Pipe Threading Equipment.

Oil Well Specialties.

Jarecki

MANUFACTURING COMPANY

"Since 1852"

General Offices: St. Louis, Mo. Home Office and Factory: Erie, Pa., U.S.A.

District Offices: Pittsburgh, Pa.; Tulsa and Bartlesville, Okla.; Mt. Pleasant, Mich.; Eastland and Dallas, Texas.

Branch Stores at all important places in the oil country.

lene torch and the ends beveled for welding into sections. The individual joints were run through a cleaning machine powered by a gasoline motor. Scrapers first removed dirt and clinging material and cutters, in a series around the pipe removed protective coating. A series of brushes completed the job. The pipe was automatically fed through the machine by driving wheels which could be adjusted to four speeds.

Reconditioned pipe was welded into the line in sections by both electric and gas means. Roll welds were used to make up sections, connections being bell-hole welds by either of the above methods. The entire sections being replaced were protected with a hot asphalt coat, a mechanically applied wrapping of spiraled asbestos felt, with an additional hot-asphalt application over the felt compound.

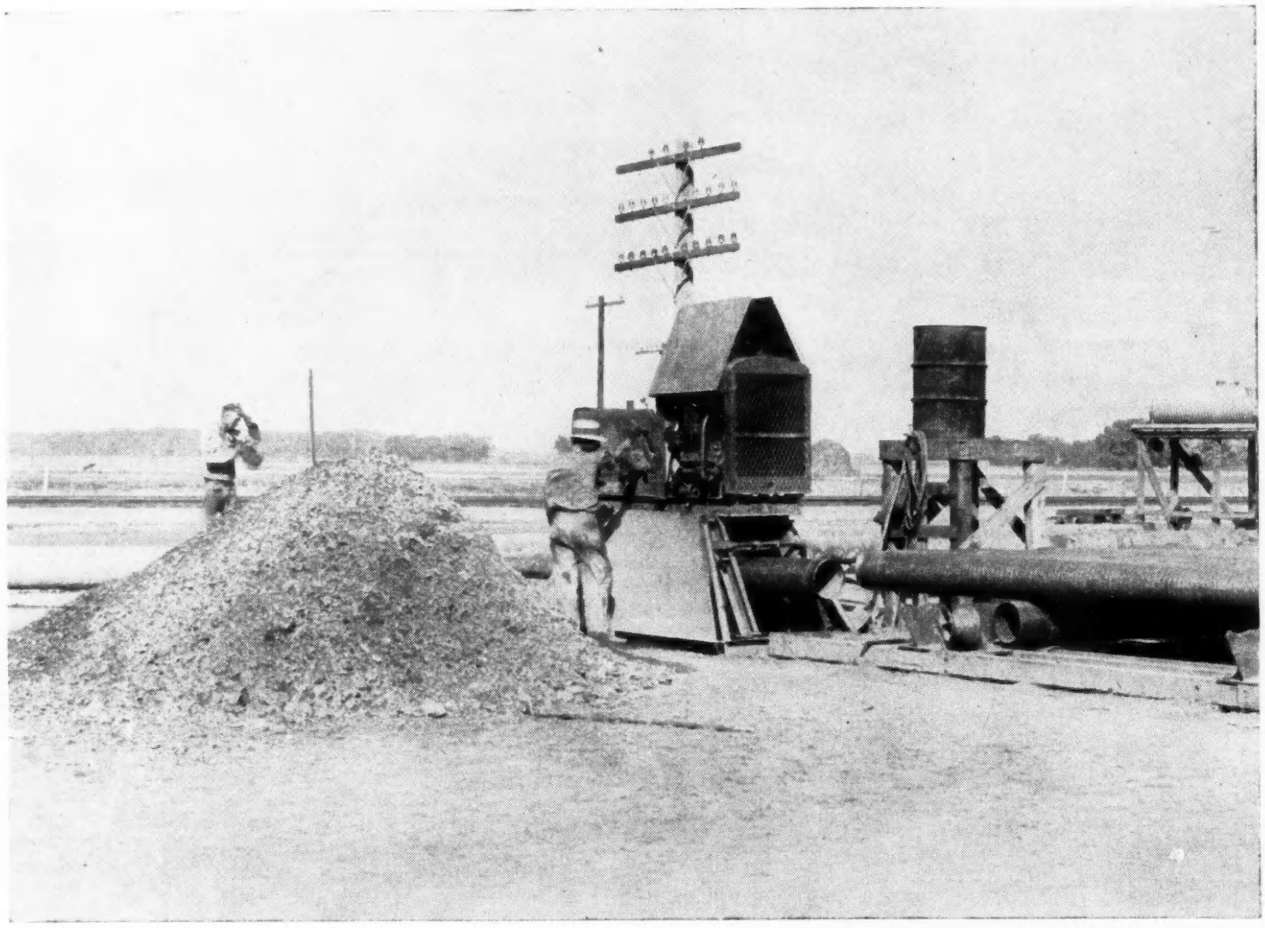
Near the Kansas line in Missouri, west of the terminal pump station at Freeman, a number of minor streams were crossed in the general manner described for the line across Big Blue. All road crossings were carefully inspected through test holes, with the result that practically all crossings were replaced. In this region, although the soil is not as active chemically as that found in western Nebraska, moisture content is considerably greater and pipe deterioration had progressed to a highly varied but dangerous degree. Lines here were made suitable for further use by spot-welding at the location. A portable motor-generator has been used for this purpose. The pipe is placed on twin rollers for the repair and application of protective coat, the latter being applied in the manner previously described with the exception that the wrapping is manual rather than mechanical.

The number of joints replaced at dangerous locations depended upon the findings of the testing crews which checked crossings and line lows. In general, only one joint was replaced although in some of the lower levels three lengths were removed.

Before removing the original line, crossings were cleared and ditched to the previous level. The road cut was shored with timbers braced and held against the walls of the ditch with heavy jacks. Traffic was maintained by bridging the ditch with planks and covering with earth.

The crews operating in this section used cold cuts to break the line before removal of the sections. Some gasoline was found in scattered locations and drips were disconnected. In general, the worst cases of line weakness were located at railroad underpasses.

Completion and operation of this line will be of importance to development in Wyoming, northeast Colorado and western Nebraska. Practically all of the higher gravity producing areas are being substantially produced at this time. In spite of favorable structural formations exploration work has been retarded through lack of handling facilities. It is expected that wildcat activity of the area may increase from its present state, which is considerably above the level of a year ago, to a program of extensive effort toward development in the Tri-State area.



Scene of one of the two pipe reconditioning yards being operated in Nebraska, where the line follows the valley of the North Platte River. The pile of material at the left of the center of the picture is scale removed from the line. Pipe cleaning machine in center of view with pipe prepared for spot-welding at the right.

TAKING THE BULL BY THE HORNS

Sucker Rod specifications have recently been on the rampage. Variations almost without end have tended to demoralize both production and inventories.

We are fully aware of the manifold differences in oil wells as to depths, capacities and characteristics of the crude, but after long experience in all the oil fields of the world, we see no reason why Sucker Rods should not, in general, be reduced to three basic qualities. Properly manufactured, these three grades will, in our opinion, fully meet all requirements in every field, and contribute many advantages and substantial benefits to both users and makers. We therefore offer the following:

●

A First Rod *of high quality, moderately priced for use in light and reasonably heavy pumping operations.*

A Second Rod *of excellent quality, with high tensile, high ductile characteristics which meets reasonably-heavy, heavy and extra-heavy pumping conditions.*

A Third Rod *combining the best features of the Second, but with the added advantage of meeting conditions in wells where corrosion constitutes a problem.*

Axelson Manufacturing Company, P. O. Box 710, Vernon Station, Los Angeles • St. Louis • 50 Church Street, New York • Tulsa
Mid-Continent and Eastern Distributor: Frick-Reid Supply Corp. • *Rocky Mountain Distributor:* Great Northern Tool & Supply Co.

OIL WELL PUMPS **AXELSON** SUCKER RODS

*Problems of Field Truck Drivers**

By JOHN D. McCAMEY,
The Carter Oil Company, Tulsa Oklahoma

WE operate both light duty and heavy duty trucks. The light duty trucks are of 1½ to 2 ton capacity, and practically all are equipped with power winches to facilitate the handling of materials. Each lease foreman has one of these trucks under his direction.

Transportation of men on these trucks is for comparatively short distances, and is safely carried on. Other trucks of similar capacity are assigned to our field construction and pipe line crews. These work out from a central point in the division, carrying men to and from the job. Time other than that necessary for this duty is utilized in regular trucking operations, under very similar conditions to those of our trucks assigned to lease duty. The greatest difference in the duty of these trucks lies in transporting of men, as these crews are at times carried 40 or 50 miles. For this reason, the trucks are equipped with removable cross seats and tarpaulins are available during bad weather. Oklahoma has comparatively little snow and ice, but this very fact makes it all the more hazardous when it is encountered.

Regular drivers are assigned to each truck, and each is capable of taking it on the highway when equipped with a trailer and fully loaded. Loads are often far in excess of the tonnage rating of the truck, but in practically all cases are of pipe or other material that does not require any great degree of skill in handling. The most valuable load is while transporting men. This fact is called to their attention along with recommended precautions to be taken.

Considering the factors that bear on the operation of these trucks, it is the opinion that the conditions are covered in our company safety rules and safe practice recommendations.

Our heavy-duty trucks vary in pay load capacity from seven to twelve tons. These operate over lease roads and highways carrying maximum tonnage, in many cases exceeding the rating given them. They are not used for transportation of men, but the duties are such that the greater amount of attention should be focussed on their operations.

The moving of a stabilizer 73 feet long, 60 inches in diameter, and weighing approximately 30 tons, over highways which are carrying heavy traffic, presents a problem of no mean proportion, not alone from the standpoint of taking care of your own equipment. Many drivers of other vehicles will not take into consideration the fact that such a load and the hook-up necessary to move it should call for the greatest of care in passing. These persons must be guarded, and the highway kept open for their use.

This unit was moved from railroad cars, an approximate distance of six miles, after being unloaded under the direction of our truck foreman, with a minimum of time and with no liability of any kind incurred. After being landed at the location it still had to be erected, which was accomplished by the same personnel. This original move was made by use of truck and trailer. When it later became necessary to move the same piece of equipment to a new site, this was accomplished by using two trucks, one going ahead and one backward, this method being used to facitate its placement at the second point of erection.

Other pieces of equipment which require special attention in moving are four-cylinder vertical 250-horsepower engines, weighing 49,000 pounds, and approximately eight feet in height. These were unloaded and moved approximately 10 miles on two wagons, hooked in tandem and pulled by a tractor. Practically the whole distance was over dirt roads, which were not in the best of condition. There were eight of these engines placed on location, and later they were removed to a different site. This time they were loaded directly on a four-wheel trailer, which was pulled by a truck. A special bumper was placed on the rear of the trailer, which permitted a 2½-ton truck to act as a pusher. On one hill it was necessary to attach ahead of the big truck a smaller truck, and later another one. These trucks hooked onto the frame of the larger truck by means of winch lines, but only a traction pull was used.

The moving of large compressors usually presents its greatest difficulty in the placing of trucks for properly loading and unloading. The weight is not so much of a factor in this case, but there are no two moves which are made under any one set of circumstances. For long hauls over highways one cylinder is usually removed. In case this is not done, a float is constructed of 6-inch x 14-inch x 14-foot hardwood timbers, and one side of the compressor is moved as a unit.

Various methods have been used in moving boilers, one being that of backing the truck bed under the barrel, winching the boiler into position, applying the binding chains, and starting off on the road with the firebox overhanging the rear end of the truck bed. The

*Presented before the 25th National Safety Congress, Atlantic City, N. J.

to 4000 feet for $1,050.00

UNIT COMPLETE AS ILLUSTRATED
(Less Balance Weights)

THE BABY BAT

OVERALL SIZE

Width	4′ 6″
Height	8′ 10″
Length	17′ 5″
Base	11′ 6″

The New OCS Unit Jack for $1050 Per Well including prime mover

OCS

The New O.C.S. Unit Jack is a small, compact unit for pumping wells up to 4000 ft. The flexibility of unit operation of wells provides better well operation, prompt installation and gradual investment as required.

Sold complete with prime mover (less counterbalance weights) which are specified to suit the requirements of individual wells.

- Single Reduction Transmission
- Adjustable 12 to 20 Strokes
- No Building Required
- Weatherproof Bearings
- Gas or Gasoline Power
- Electric Motors Extra

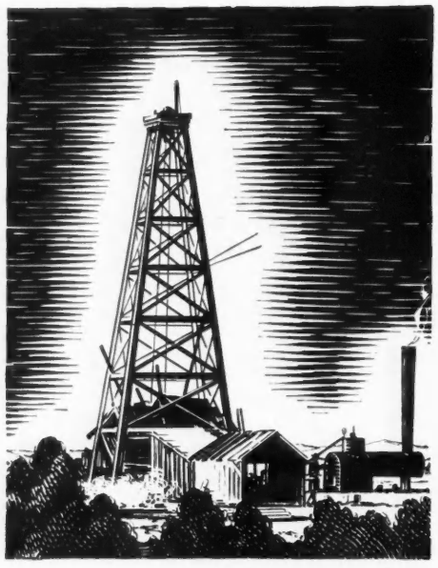
Write for Capacity Sheet and Detail Bulletin

THE OIL COUNTRY SPECIALTIES MFG. CO.

LONG BEACH, CALIF. COFFEYVILLE, KANSAS HOUSTON, TEXAS

Sales Representatives in All Active Points in Mid-Continent Field and Hillman-Kelly, Incorporated, Los Angeles, Calif.

Back In 1901



Oil Banking Was NEW

Before 1901 BANKING ON OIL was unheard of! In 1901 it was new.

Since that time the Oil Industry has grown by leaps and bounds in the Mid-Continent area—and with it has grown this financial organization.

Knowing by experience the needs of oil producers and having served them in their growth, we are able to aid the industry in its further development.

WE BANK ON OIL

THE FIRST NATIONAL BANK
and TRUST COMPANY
TULSA, OKLAHOMA

MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION

question has been raised as to whether or not this method of moving a boiler may cause ultimate damage to the tops of the circumferential seams in the barrel of the boiler. It has been found, however, that in the process of unloading a boiler which has been carried in this manner much greater care can be exercised in landing it in its new position, thereby saving a number of strains which were caused by the older method of loading the boiler, firebox ahead, on the truck bed.

Another hazardous job which falls to the lot of our drivers is the raising of stacks on rotary boilers. For this purpose, a 28-foot A-frame is used, and the stacks swung into position. This particular job requires the maximum amount of care, and even then cannot be considered a particularly safe practice.

As depth to which producing wells are drilled has increased the weight of the equipment for drilling has increased in proportion. At the present time a unitized drawworks will vary in weight from 28,000 to 40,000 pounds. Loading or unloading a piece of equipment of that type from a derrick floor, which is in many cases 10 or 12 feet above ground level, is worthy of thought, particularly when, after a well is drilled in and flowing connections are in place, it is found necessary to swing the drawworks over the top of these connections to get it in the proper position for loading on the only side of the derrick where it is possible to place a truck.

In the Fitts Pool, where twin wells are being drilled at the present time, with the immediate possibility of drilling yet a third well to produce from another formation, it has been found that at completion of the twin well two working sides are shut off from the truck in taking out the drilling equipment. The third well will undoubtedly complicate the situation to a greater degree, and yet those drivers still have to get that equipment out.

You are all aware of the inadequacy of any set of written rules when applied to work of this kind. Situations arise on the instant that change the entire pictpre. Judgment based on experience must be used, decisions made, and those decisions must necessarily be the right ones. Men on the other location are waiting for the material loaded on those trucks. The load with the equipment necessary to move it can easily approach a value of $30,000. One wrong decision may cost you considerably more than that amount in public liability claims.

Essential Factors

My conclusions as to the essential factors in efficient operation of field trucks are as follows:

1. A thoroughly competent truck foreman.

2. Truck drivers, preferably married, who have been trained in your own service and are old enough to carry responsibility. On our heavy duty trucks no limit is set as to age, but it is found that thirty years or above would fit the majority.

3. Furnish these men with the best equipment available (that does not necessarily mean the most expensive equipment). Go to the field to check the service on chains, binders, snatch blocks, and other regular equipment.

4. See that the truck foreman is informed as to changes in safety rules or safe practice recommendations.

5. Have as few rules as possible to cover the subject adequately.

We feel that efficient operation is safe.

Refined Prices Up

IMPROVED GASOLINE MARKET REFLECTS A STRONG POSITION

THE oil industry's current markets reflect the strong statistical position of the business and the rigid self-discipline of recent years, as well as the general industrial recovery. For prices of products—even of gasoline—have worked upward further, at a season when unsteadiness or recessions normally would not be surprising.

Gasoline tank car prices have improved within the past week in the Mid-Continent, and kerosene prices also have pushed higher in certain districts.

The crude oil market is strong, as evidenced late last week at the Texas Railroad Commission hearing. It was brought out that in certain instances the Texas allowables were not high enough to satisfy the market requirements for crude, and that the needed oil was being taken from storage or else bought from various producers in a distinctly competitive market.

The strong markets for gasoline and kerosene, as well as fuel oils, are making the crude market similarly strong.

Demand Is Large

This general strength of the markets reflects the remarkably large demand for petroleum products. The fuel oils are being consumed this fall in all time record volumes, as domestic oil burner installations have continued to increase sharply, to the highest level ever reached. The burning oils have been and still are comparatively scarce, and the prices are firm following a long sustained increase.

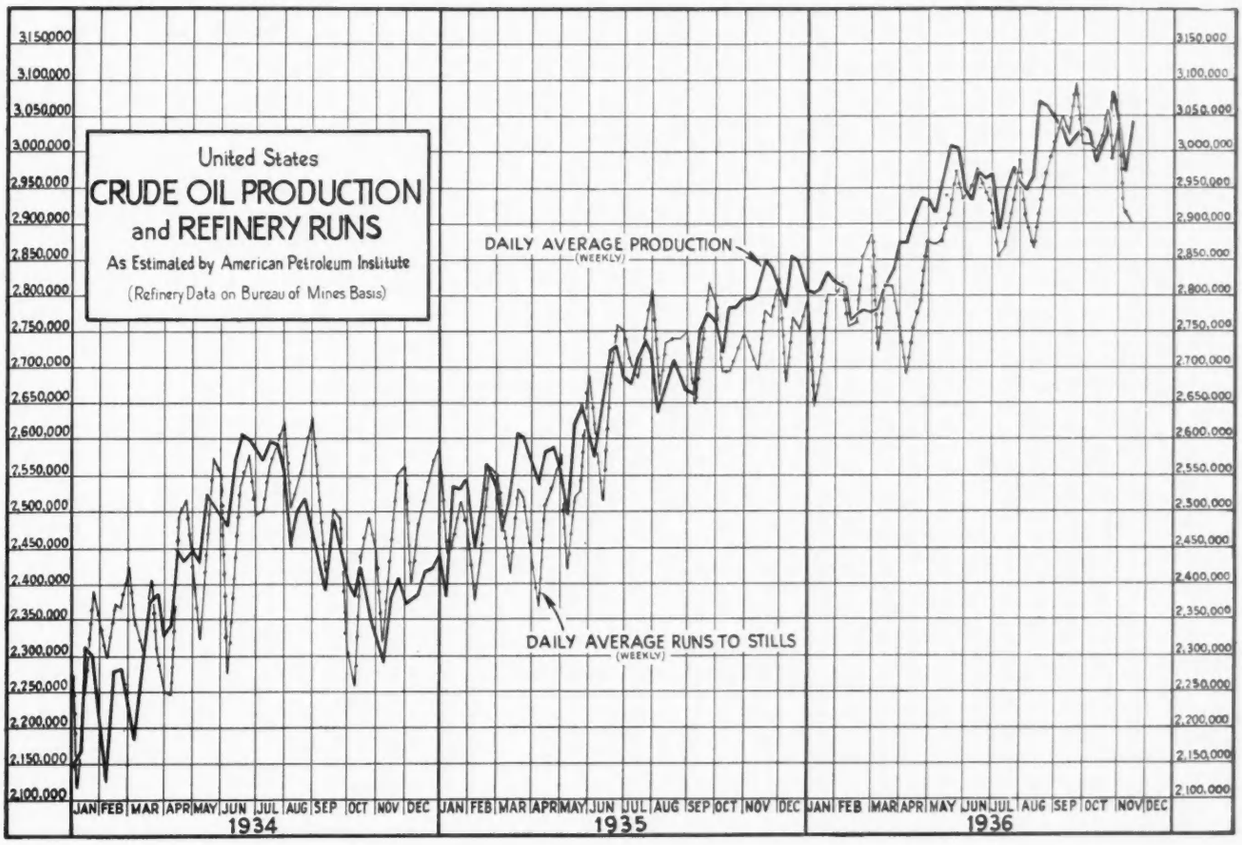
Although it has been feared that the meeting of the heavy fuel oil demand would lead to excessive piling up of gasoline stocks, such a result has not occurred so far. For the demand for gasoline, like that for fuel oil, has been unusually large. Weather conditions in recent weeks have been relatively mild, and there has not been any material interference with motoring. Within the past week, the minimum tank car prices of most grades of gasoline have beeen marked up one-eighth cent in both the Oklahoma and the Chicago markets.

Kerosene is in strong demand, in sympathy with the heavy requirements for fuel oils, and the kerosene prices last week advanced one-eighth cent in the Oklahoma market.

Because of the present strong markets for most of the petroleum products, hope has increased among oil producers that higher crude prices are impending. This hope is bolstered, moreover, by the fact crude storage is at the lowest level for many years, while stocks of the refined products also are more or less in line with consumption.

Proration Difficulties Loom

Nevertheless, the general market outlook is not without its dark clouds. Still ahead is the more severe weather of winter, which may bring into reality the feared weakening of the gasoline market. Also in prospect is the possibility of a weakening of the present proration program. The Texas Railroad Commission hearing last week brought threats from producers that low well and field allowables may precipitate court tests of the proration orders and statutes. It has be-



come increasingly probable that proration cannot long continue on the smooth basis of the past.

Mid-Continent Prices Up

U. S. Motor gasoline prices in the Oklahoma tank car market last week showed general improvement over the previous week, with minimum prices up one-eighth cent. The third grade, 62 octane and below, was generally priced at 4¾ cents a gallon; the 63 to 67 octane material at 5⅛ to 5⅜ cents; and the 68 to 70 octane at 5¾ cents.

Similar improvement had occurred also in the Chicago market, where the corresponding new prices were: 4½ to 4¾ cents, 5 to 5¼ cents, and 5½ to 5¾ cents.

In East Texas, fully tendered third grade gasoline continued within a range of 4½ to 4⅝ cents a gallon.

Kerosene prices stiffened in the Oklahoma market, and the 41-43 water white grade could not be bought under 3½ cents or the 42-44 water white white grade under 3⅝ cents. Those prices also represented the top prices in the Chicago market, but in that area some sales continued to be made for one-eighth cent less.

Fuel oil prices were generally unchanged from the relatively high levels of the previous week. In the Oklahoma market the No. 1 oils ranged from 3¼ to 3½ cents a gallon, f. o. b. refineries, and the No. 2 oils from 3⅛ to 3¼ cents. Corresponding prices in the Chicago market were 3¼ to 3½ cents and 3 to 3¼ cents.

East Texas Tank Car Shipments

Week Ending November 15, 1936

PRODUCTS—	No. Cars	Estimated Gallons
Gasoline	748	6,064,545
Fuel oil	295	2,811,334
Casinghead gasoline	102	871,383
Distillate	101	802,069
Topped crude	31	280,628
Gas oil	24	195,062
Kerosene	7	50,859
Residuum	6	48,585
Total	1,314	11,124,465
Total previous week	1,206	10,140,396
Interstate	498	.....
Intrastate	438	.....
Coastwise	378	.....
Total	1,314	.....

GASOLINE STRONG

Position strengthened by large purchases by majors

Tyler.—Strengthened by large purchases by majors during the earlier part of November, the East Texas gasoline market occupied a favorable position late last week.

Federal tendered motor fuel was generally quoted at 4½ cents per gallon, and a few of the more optimistic plant owners were forecasting a minor boost in quotations, but the majority fear an early return of surplus stocks of gasoline, since none of the refiners will reduce crude runs to stills in proportion to the seasonal decline on gasoline consumption.

Burdensome stocks of motor fuel held by plants that operate on fully tendered crude caused prices on the former product to drop to 4¼ cents per gallon during the fore part of the current month, and the market was not stabilized until majors came forward with big orders. This buying caused tank car shipments of gasoline for the week ending November 15 to advance above the 6,000,000-gallon level for the first time since the last week in August.

COMPACT METHOD

Study for utilizing state legislative power urged

Washington, D. C.—Widest possible study of the state compact method as a means for utilizing state legislative powers is recommended in a committee report made public November 21 by the board of directors of the Chamber of Commerce of the United States.

The compact method, the report explained, offers the exercise of unquestioned powers by states directly interested in a subject and which undertake to act in concert through entering into agreement among themselves, subsequently obtaining the consent of Congress to this common action. This method, the report stated, is common action. This method, the report stated, is expressly contemplated in the constitution.

The report does not advocate the compact method for any particular subject. It is directed solely toward encouraging business men and business organizations "to give most careful attention to this method and examine most thoroughly its possibilities."

Expect Recommendations

It is anticipated that the committee in a later report will present its own recommendations respecting the possibilities of the compact method as to particular subjects, including national resources such as oil.

"There are obvious advantages in exercise of state powers in accordance with compacts among the interested states," the committee declared. "The action is taken by the states which have direct concern and intimate knowledge of the conditions which are to be met, and there is no danger of having imposed upon such states regulations which are determined by other states without full regard for the views of the states most affected.

"Through the use of compacts among states there would be respect for the constitutional reservation to the states of all powers not expressly granted to the federal government, with the practical effect that the courts in reviewing compacts could take a more liberal view than in construing legislation purporting to be based upon limited federal powers."

It is pointed out in the report that "Congress has given its consent to more than 60 state compacts. Attacks have been

Summary of Wells Completed in the United States Week Ending November 21, 1936

STATE	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total Completions 1936	Total Completions this Date, 1935
Alabama	....	....	....	....	.....	2	4
Arkansas	....	....	....	....	.....	81	115
California	9	8	....	1	2,365	1,002	771
Colorado	2	1	....	1	1,400	16	10
Florida	1	....	....	1	.....	2	....
Illinois	....	....	....	....	.....	4	9
Indiana	....	....	....	....	.....	160	173
Kansas	37	28	3	6	23,397	1,501	1,256
Kentucky	2	1	....	1	5	240	157
Louisiana	18	11	2	5	4,908	914	647
Michigan	13	5	3	5	445	696	524
Mississippi	2	....	1	1	.....	8	18
Montana	12	3	8	1	20	176	154
Nebraska	....	....	....	....	.....	1	....
New Mexico	15	15	....	....	23,345	512	259
New York	....	....	....	....	.....	....	....
Ohio	23	14	6	3	264	1,722	1,318
Oklahoma	53	36	5	12	39,286	2,584	2,144
Pennsylvania	....	....	....	....	.....	....	118
Texas	285	201	3	81	346,849	11,271	10,592
Utah	....	....	....	....	.....	....	1
West Virginia	....	....	....	....	.....	548	450
Wyoming	9	6	....	3	511	85	66
Total this week	481	329	31	121	442,825	21,525	18,807
Total last week	424	308	27	89	373,225	....	....
Total this year	21,525	14,478	1,999	5,048	20,191,739	....	....

Comparison of Permits Granted for New Wells

STATE	Week Ending Nov. 21	Total this Mo.	Total this Year	Total this Date Last Year	1935 Year Total
Arkansas	1	6	89	57	70
California	19	57	946	900	925
Louisiana	9	50	1,031	791	846
Kansas	25	112	1,661	1,090	1,204
Michigan	25	67	691	699	749
Oklahoma	44	162	2,303	2,119	2,311
Texas	144	710	14,064	10,150	10,800
Total	267	1,164	20,785	15,806	16,964

made in the courts upon some of these agreements among states. But no compact to which Congress has so far given its assent has been held invalid by the United States Supreme Court. This is a significant circumstance, particularly in view of the variety of compacts to which Congress has given its consent since 1780 and the importance of the subject matters of many of them."

PRODUCTION UP
U. S. output is near all time during past week

UNITED STATES crude oil production during the past week, ended November 21, averaged 3,050,575 barrels daily, which was not far under the all-time peak, established several weeks ago. The output was 31,925 barrels a day greater than in the week ended November 14, and it was 180,275 barrels a day above the recommendation of the Bureau of Mines.

The increase in production last week reflected gains in Texas, Oklahoma and Kansas, although the Texas increase was the most important, California output was unchanged, while decreases occurred in Louisiana and New Mexico.

Texas last week averaged 1,141,800 barrels daily, or 23,000 barrels a day more than in the previous week, as increased allowables in certain fields manifested themselves. The state was 32,500 barrels above its federal allocation.

Oklahoma increased its production 4100 barrels in averaging 593,425 barrels daily. That was 35,025 barrels a day more than the state's allocation.

Kansas output was up 225 barrels to 167,300 barrels daily, or 12,800 barrels daily above the federal recommendation.

California again averaged 591,000 barrels daily, as in the previous week.

Louisiana produced at the average rate of 231,300 barrels daily, or 2675 barrels a day less than in the previous week, although still 32,700 barrels a day in excess of the Bureau of Mines recommendation.

New Mexico last week averaged 83,600 barrels daily, or 100 barrels a day less than in the previous week, and was 8000 barrels a day above the allocation to the state.

CASINGHEAD PLANT
Jones plans to build in the Rodessa field

Shreveport.—J. Edward Jones, of New York, who has some production in the Rodessa field, is planning a casinghead plant there but has not yet announced the capacity of the unit nor let the contract.

Atlantic Oil Producing Company's recent move to add to its steel storage in the East Texas field is regarded in some quarters as an indication that this company has not entirely abandoned the idea of a pipe line to Rodessa and that the storage being built may be to store East Texas oil to leave its trunk from the East Texas field to the coast open for Rodessa crude.

Rodessa's total production to November 1 was 18,702,000 barrels.

United States Crude Oil Production

Estimates Compiled by The OIL WEEKLY

DISTRICT OR STATE	Bureau of Mines Recommendation (Daily in Nov.)	ACTUAL PRODUCTION: BARRELS DAILY FOR WEEK ENDING	
		November 21	November 14
TEXAS—			
Texas Panhandle	.....	59,200	59,400
North Texas	.....	64,700	63,400
West Central Texas	.....	33,900	32,200
West Texas	.....	147,600	145,100
East Central Texas	.....	69,800	61,300
*East Texas Field	.....	442,100	441,500
†South Texas	.....	166,100	162,600
†Texas Gulf Coast	.....	158,400	152,800
*Total Texas	1,109,300	1,141,800	1,118,300
OKLAHOMA—			
Oklahoma City	.....	162,275	161,075
Seminole Area	.....	141,800	128,175
Tatums	.....	3,300	3,325
Lucien	.....	12,750	13,075
Fitts	.....	65,325	68,100
Edmond	.....	14,900	15,950
Others	.....	193,075	197,625
Total Oklahoma	558,400	593,425	587,325
KANSAS—			
Ritz-Canton	.....	5,875	5,900
Voshell	.....	2,000	2,825
Nikkel-Hollow	.....	3,725	3,850
Sedgwick	.....	4,775	4,675
Burrton-Haury	.....	13,225	13,600
Lorraine	.....	6,300	6,475
Oxford	.....	2,975	3,050
Others	.....	127,625	126,700
Total Kansas	154,500	167,300	167,075
LOUISIANA—			
North Louisiana	.....	76,900	77,175
Louisiana Gulf Coast	.....	154,400	156,800
Total Louisiana	198,600	231,300	233,975
ARKANSAS	28,100	27,650	27,775
CALIFORNIA—			
Long Beach	.....	64,500	66,000
Santa Fe Springs	.....	45,500	45,500
Huntington Beach	.....	36,500	37,000
Dominguez	.....	25,000	24,500
Inglewood	.....	12,500	13,000
Ventura Avenue	.....	34,000	33,000
Seal Beach	.....	9,000	9,000
Midway-Sunset	.....	66,000	66,500
Elwood	.....	12,000	11,500
Kettleman Hills	.....	77,500	76,000
Mountain View	.....	2[illegible],00	21,500
Playa del Rey	.....	1[illegible],500	11,500
Others	.....	175,500	176,000
Total California	549,600	591,000	591,000
MOUNTAIN STATES—			
Wyoming	40,100	49,300	45,100
Montana	14,300	17,800	16,800
Colorado	4,400	4,700	4,700
Total Rocky Mountain States	58,800	71,800	66,600
NEW MEXICO	75,600	83,600	83,700
EASTERN STATES	108,400	113,500	112,800
MICHIGAN	29,000	29,200	30,100
*Total United States	2,870,300	3,050,575	3,018,650
*Surreptitiously produced oil in East Texas, not included in above figures, estimated at	.....	10,000	10,000
Grand Total, including surreptitious production	.....	3,060,575	3,028,650

† Coastal section of South Texas is included with Texas Gulf Coast.

Crude Runs To Stills: Stocks of Finished and Unfinished Gasoline and Gas and Fuel Oil, and Cracked Gasoline Production, Week Ended November 14, 1936

(Figures in thousands of gallons of 42 gallons each as reported to American Petroleum Institute)

DISTRICT	Daily Refining Capacity			Crude Runs to Stills		Stocks of Finished and Unfinished Gasoline				Stocks of Gas and Fuel Oil			Daily Charging Capacity of Cracking Units			Cracked Gasoline Production
						Finished										
	Potential Rate	Reporting		Daily Average	% Operated	At Refineries	Terms. Trans. Pipe Lines	Unfinished in Naphtha Distillates	Total Finished and Unfinished	Gas, Oil & Distillates	Residual Fuel Oil	Total	Potential Rate	Reporting		Daily Average
		Total	%											Total	%	
East Coast	612	612	100.0	508	83.0	4,532	9,077	804	14,413	6,704	6,167	12,871	534	534	100.0	115
Appalachian	154	146	94.8	97	66.4	835	1,007	266	2,108	348	305	653	79	78	98.7	26
Ind., Ill., Ky	475	457	96.2	394	86.2	4,519	3,428	663	8,610	3,269	3,132	6,401	349	348	99.7	128
Okla., Kans., Mo	453	384	84.8	276	71.9	3,295	1,952	456	5,703	1,183	2,266	3,449	256	228	89.1	66
Inland Texas	330	160	48.5	108	67.5	1,280	53	209	1,542	420	1,323	1,743	148	105	70.9	31
Texas Gulf	732	710	97.0	603	84.9	5,151	227	1,801	7,179	4,615	3,862	8,477	399	393	78.5	150
Louisiana Gulf	169	163	96.4	130	79.8	907	256	205	1,368	1,186	1,260	2,446	77	74	96.1	27
North La.,—Ark	80	72	90.0	58	80.6	207	84	45	336	158	249	407	46	44	95.7	8
Rocky Mountain	97	60	61.9	50	83.3	746	.....	97	843	207	552	759	46	39	84.8	15
California	852	789	92.6	444	56.3	8,525	2,140	1,224	11,889	.....	.....	73,360	280	280	100.0	74
Reported	.....	3,553	89.9	2,668	75.1	29,997	18,224	5,770	53,991	.....	.....	110,566	.....	2,123	95.9	640
Estimated Unreported	.....	401	.....	232	.....	2,159	1,026	408	3,593	.....	.....	2,275	.....	91	.....	45
*Estimated Total U. S. November 14, 1936	3,954	3,954	.....	2,900	.....	32,156	19,250	6,178	57,584	.....	.....	112,841	2,214	2,214	.....	685
*Estimated Total U. S. November 7, 1936	3,954	3,954	.....	2,920	.....	31,901	19,247	6,161	57,309	.....	.....	112,924	2,214	2,214	.....	660
U. S. B. of M., *November 14, 1935	.....	.....	.....	†2,773	.....	27,636	17,634	5,577	50,847	.....	.....	109,436	.....	.....	.....	†599

* Estimated Bureau of Mines basis. † November, 1935, daily average.

TEXAS LEASE SALE

Bids on state lands will be received December 18

Austin.—State Land Commissioner J. H. Walker has announced that sealed bids will be received on December 18 on several tracts of submerged land on the Texas Gulf Coast.

The first group is located in Highland Bayou, Galveston County.

Tract No. 1 being that part extending from center of GC&SF Ry right-of-way to the mouth of Highland Bayou, containing approximately 30.37 acres.

Tract No. 2 being that part extending from center of GC&SF Ry right-of-way upstream to center of Texas City Terminal Ry right-of-way, containing approximately 62.49 acres.

Tract No. 3 being that part extending from center of Texas City Terminal Ry right-of-way upstream to northeast corner of Arthur Burke survey No. 2, containing approximately 34.53 acres.

Tract No. 4 being that part extending from northeast corner of Arthur Burke survey No. 2 upstream to the northwest corner of H. Dillard survey No. 5, containing approximately 21.46 acres.

The second group is located in Laguna Madre and Corpus Christi Bay, Nueces County. It is located in the Flour Bluff area and consists of the following tracts:

Tract No.	Acres	Tract No.	Acres	Tract No.	Acres	Tract No.	Acres
1	91	10	42	18	56	31	320
2	89	11	40	20	98	33	320
3	80	12	159	22	86	35	80
4	80	13	128	23	84	36	80
5	74	14	62	26	320	37	80
6	63	15	102	27	320	38	80
7	55	16	93	28	320	40	160
8	53	17	76	29	320	43	320
9	80	.....		30	320	44	320

The third group of leases is in Oso Creek in the Plymouth field, Nueces County, and includes the following tracts:

Tract E .....500 acres
Tract F .....400 acres
Tract H .....100 acres

OKLAHOMA HEARING

Oklahoma City.—Hearings to determine both the demand for crude oil from Oklahoma oil fields in December as well as to fix the allowables for that month will be held in offices of the Oklahoma Corporation Commission November 27. W. J. Armstrong, chief conservation officer of the commission, will meet with purchasers at 10 o'clock that morning to consider market demand.

The hearing before the commission will take place that afternoon, when findings of the morning session will be presented. The commission will write its formal order after the hearing.

December daily production of 567,000 barrels for Oklahoma has been recommended by the United States Bureau of Mines. This is an increase of 8600 barrels over the figure recommended for November.

GASOLINE TAXES

Are Connecticut's chief source of revenue

Hartford.—Gasoline taxes were the principal source of revenue for Connecticut during the past fiscal year, according to a report of State Treasurer John S. Addis. They amounted to $7,191,846, or about 10 percent of the state's total revenue of $71,781,847. This is an increase of more than $2,000,000 in gasoline tax receipts over the previous year.

Receipts from motor vehicle registration fees dropped to $5,970,097 for the last fiscal year, as compared with $8,443,226 for the previous year. The decrease resulted from a sharp cut in registration fee rates, and it now is feared that shifting of the motor tax burden from the vehicle to gasoline will hamper the commercial development of the highways.

MERCEDES GAS LINE

Mission.—Construction is being commenced on a six-mile natural gas pipe line from the Mercedes field, Hidalgo County, to the Rio Grande Valley Gas Company's trunk system just east of Mercedes. The line will follow the highway, a franchise having been granted for 30 years for the right-of-way, by Hidalgo County Commissioners.

The pipe line is to be owned by Mercedes Fuel Company, an associate company of Gulf States Oil Company.

Pipe already has been unloaded along a portion of the right-of-way.

CRUDE OIL PRICE QUOTATIONS

(Figures Represent Basic or Flat Prices—Revised to November 20, 1936)

DISTRICT	Bottom Grav.	Dif.	Top Grav.	Date
Oklahoma-Kansas	28—$0.94	2¢	40—$1.18	1- 9-36
N. and N.-C. Texas	28— .84	2¢	40— 1.08	1- 9-36
Texas Panhandle				
Gray County	34— .86	2¢	40— .98	1- 9-36
Carson-Hutchinson	34— .81	2¢	40— .93	1- 9-36
West Texas				
Andrews, Crane, Crockett, Ector, Glasscock, Howard, Winkler, Upton	29— .76	2¢	36— .90	1-14-36
Pecos	* .85			1-14-36
West Central Texas	28— .84	2¢	40— 1.08	1- 9-36
East Central Texas	28— .91	2¢	40— 1.15	1- 9-36
East Texas	*1.15			1- 9-36
Talco	* .65			11-1-36
Rodessa	*1.10			1- 9-36
Texas Gulf Coast				
Anahuac - Dickinson, Flour Bluff, Turtle Bay	30— 1.04	2¢	40— 1.24	1- 9-36
Conroe	35— 1.24	2¢	40— 1.34	1- 9-36
Tomball Satsuma	*1.30			1- 9-36
Cleveland	*1.00			1-11-34
†Goose Creek, Hull, Liberty, Orange, Pierce Junction, Barbers Hill, Raccoon Bend, Sugarland, West Columbia, Thompsons, Mykawa, Amelia, Plymouth, Quintana-O'Connor, North Quintana	Below 17— .88	2¢	34— 1.22	1- 9-36
South and S. W. Texas	Below 17— .88	2¢	34— 1.22	1- 9-36
Refugio (Light)	* .95			11- 1-36
Refugio (Heavy)	* .95			11- 1-36
Greta (Heavy)	*1.22			10- 1-36
Saxet (Light)	* .95			11- 1-36
Saxet (Heavy)	* .95			11- 1-36
Taft (Heavy)	* .90			11- 1-36
Mirando	*1.25			1- 9-36
Pettus	* .97			1-14-36
Salt Flat	* .97			1-14-36
Darst Creek	* .90			11- 1-36
Placedo (Heavy)	* .95			4- -36
Placedo (Light)	* .97			
Port Lavaca	*1.15			11-1-36
Heyser (Light)	* .90			11-1-36
Heyser (Heavy)				

* All gravities—flat rate.
† Gulf Coast prices as posted by Humble Oil & Refining Company.

DISTRICT	Bottom Grav.	Dif.	Top Grav.	Date
Arkansas				
El Dorado (Light) and Rainbow	25—$0.78	2¢	40—$1.10	1-10-36
El Dorado East Field and Smackover	* .75			1-10-36
North Louisiana	25— .78	2¢	40— 1.10	1-10-36
Urania	* .97			1-10-36
South Louisiana	Below			
Lockport	19— .92	2¢	34— 1.22	1- 9-36
Iowa Cameron Mds.	19— .82	2¢	34— 1.12	1- 9-36
Lafitte	*1.12			11- 1-36
Rocky Mountain States				
Salt Creek	29— .94	2¢	40— 1.18	1-10-36
Elk Basin	*1.18			7-20-36
Frannie (Light)	* .70			11- 4-36
Frannie (Heavy)	* .62			11- 4-36
Grass Crk., Wyo., (Light)	*1.18			7-20-36
Grass Creek (Heavy)	* .62			11- 4-36
Hamilton Dome	* .57			11- 4-36
Big Muddy	*1.11			1- 9-36
Rock Creek, Wyo.	*1.08½			11- 1-36
Sunburst	*1.15			6- 5-36
Lance Creek	* .90			1- 9-36
Osage	*1.08			
Cat Creek	*1.07			8-25-33
Cut Bank	*1.35			6- 3-36
Pondera	*1.05			9-29-33
Hog Back, N. M.	*1.00			9- 8-33
Lea County, N. M.	29— .76	2¢	36— .90	1-14-36
Mid-West States				
Lima	*1.15			9-18-36
Illinois	*1.23			1- 9-36
Princeton	*1.23			1- 9-36
Western Kentucky	*1.28			11-1-36
Pennsylvania				
Bradford	*2.45			1-13-36
Sw. Pa. Pipe Line	*2.17			1-13-36
Eureka Pipe Line	*2.12			1-13-36
Buckeye Pipe Line	*1.97			1-13-36
Corning Grade	*1.32			9-18-36
Michigan				
Central Michigan	*1.32			9-16-36
Muskegon	*.70-1.00			12-31-32
Canada				
Petrolia	*2.10			9- 9-33
Oil Springs	*2.17			9- 9-33
Mexico				
F.O.B. Tampico (Net)	‡0.895			

* All gravities—flat rate.
‡ Average price, all oil sales being to small refineries.
‡ U. S. Currency, buyer pays tax.

MAJOR PRICE CHANGES

	Penna. (Nat. Tr.)	Mid.-Cont. (36 Gr.)	Calif. (26 Gr.)
June 19, 1933	Up 10	Up 19	.....
June 26, 1933	Up 10	.....	Up 9-12
July 6, 1933	Up 13	Up 10	.....
July 17, 1933	Up 15	.....	.....
July 28, 1933	Up 15	.....	.....
August 11, 1933	Up 10	.....	.....
August 24, 1933	.....	Up 10	.....
August 30, 1933	Up 15	.....	.....
September 6, 1933	Up 10	Up 10	Up 15
September 8, 1933	.....	Up 15	.....
May 1, 1934	Up 10	.....	.....
November 6, 1934	Cut 25	.....	.....
December 6, 1934	Cut 25	.....	.....
January 4, 1935	Up 15	.....	.....
February 4, 1935	Up 15	.....	.....
May 16, 1935	Cut 15	.....	.....
June 26, 1935	Cut 15	.....	.....
July 16, 1935	Cut 10	.....	.....
August 29, 1935	.....	.....	Cut *4
September 6, 1935	Up 5	.....	.....
October 29, 1935	Up 15	.....	.....
November 1, 1935	.....	.....	Up *28
November 18, 1935	Up 15	.....	.....
December 6, 1935	.....	.....	Up *9
January 9, 1936	.....	Up 10	.....
January 13, 1936	Up 15	.....	.....
February 26, 1936	.....	.....	Up 15

CRUDE PRODUCTION TAXES

Oklahoma—Five percent of gross value less royalty interest.

TEXAS—2¾ cents or 2¾ percent, whichever is higher.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 percent of gross market values.

Montana—Two percent of gross value at well and ⅜ of 1c per barrel.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

* All gravities—flat rate.
+ Signal Hill 26 gravity.
ɪ Seal Beach 26 gravity.

CALIFORNIA OIL PRICES

(All gravities above those quoted take highest prices of that field. Effective February 26, 1936)

Gravity	Signal Hill	Seal Beach Alamitos Heights	Huntington Beach	Inglewood	Playa Del Rey	Olinda Brea Canyon	Athens Rosecrans	Elwood Terrace	Torrance	Richfield	Whittier East Coyote La Habra	Montebello	West Coyote Hills	Santa Fe Springs	New Hall McKittrick Kern River Round Mountain	Mountain View	Midway-Sunset Buena Vista Hills Elk Hills	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	$.80	$.79	$.78	$.79	$.80	$.76	....	....	$.80	$.76	$.76	$.77	$.78	.....	$.70	....	$.70	$.70	$.70	....
15-15.9	.80	.79	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	.....	.70	....	.70	.70	.70	....
16-16.9	.80	.79	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	.....	.70	....	.70	.70	.70	....
17-17.9	.80	.79	.78	.81	.80	.76	....	....	.80	.76	.76	.77	.78	.....	.70	....	.70	.70	.70	....
18-18.9	.80	.79	.78	.84	.80	.78	....	....	.82	.76	.76	.77	.78	.....	.70	....	.70	.70	.70	....
19-19.9	.82	.79	.82	.87	.84	.81	....	....	.85	.76	.78	.77	.78	.....	.70	$.70	.74	.74	.71	$.70
20-20.9	.85	.79	.85	.90	.88	.84	....	....	.88	.78	.82	.77	.80	.....	.....	.70	.78	.78	.72	.70
21-21.9	.88	.79	.89	.93	.93	.88	....	....	.91	.80	.85	.77	.84	$.78	.....	.73	.82	.82	.74	.70
22-22.9	.92	.82	.92	.96	.98	.92	....	....	.93	.84	.89	.79	.88	.78	.....	.77	.87	.86	.78	.72
23-23.9	.95	.86	.96	.99	1.02	.96	$.84	....	.96	.88	.93	.82	.92	.78	.....	.80	.92	.90	.82	.76
24-24.9	.99	.91	1.00	1.02	1.06	.99	.88	....	.99	.91	.96	.85	.96	.82	.....	.84	.97	.94	.86	.79
25-25.9	1.03	.95	1.03	1.05	1.11	1.03	.93	....	1.02	.95	....	.89	.99	.86	.....	.88	1.01	.98	.90	.83
26-26.9	1.06	1.00	1.07	1.09	1.16	1.06	.98	....	1.05	.98	....	.92	1.03	.90	.....	.91	1.06	1.02	....	....
27-27.9	1.10	1.05	1.11	1.12	....	1.10	1.03	....	....	1.02	....	.96	1.06	.95	.....	.95	1.10	1.06	....	....
28-28.9	1.14	1.10	1.14	1.15	....	1.14	1.07	....	....	1.06	....	.99	1.10	.99	.....	.99	1.15	1.10	....	....
29-29.9	1.17	1.15	1.18	1.18	F.O.B.	1.17	1.12	....	....	1.09	....	1.03	1.14	1.03	.....	1.02	1.20	1.14	....	....
30-30.9	1.21	1.19	1.22	1.21	Pipe	1.21	1.17	F.O.B.	....	....	....	1.07	1.17	1.08	.....	1.06	1.25	1.18	....	....
31-31.9	....	.....	....	1.24	Line	1.24	1.22	Ship	Kettleman Hills			1.11	1.21	1.12	.....	1.09	1.29	....	....	....
32-32.9	....	....	....	1.27	....	1.27	1.27					1.14	1.25	1.16	.....	1.13	1.34	....	....	....
33-33.9	....	....	....	....	....	....	1.32	$.128	1.19			1.18	1.28	1.20	.....	1.17	1.38	....	....	....
34-34.9	....	....	....	....	....	....	1.37	1.32	....	1.23	....	1.22	1.32	1.25	.....	1.20	.....	....	....	....
35-35.9	....	....	....	....	....	....	1.42	1.35	....	1.27	....	1.25	....	1.29	.....	....	.....	....	....	....
36-36.9	....	....	....	....	....	....	1.46	1.39	....	1.31	....	1.29	....	1.33	.....	....	.....	....	....	....
37-37.9	....	....	....	....	....	....	1.51	1.43	....	1.35	....	1.32	....	1.37	.....	....	.....	....	....	....
38-38.9	....	....	....	....	....	....	1.56	....	....	1.39	....	1.36	....	1.42	.....	....	.....	....	....	....
39-39.9	....	....	....	....	....	....	1.61	....	....	1.43	....	1.40	....	.....	.....	....	.....	....	....	....
40-40.9	....	....	....	....	....	....	1.66	....	....	....	....	1.43	....	.....	.....	....	.....	....	....	....

Edited by
WM. V. GROSS, Associate Editor

Production Development And Welfare Costs High

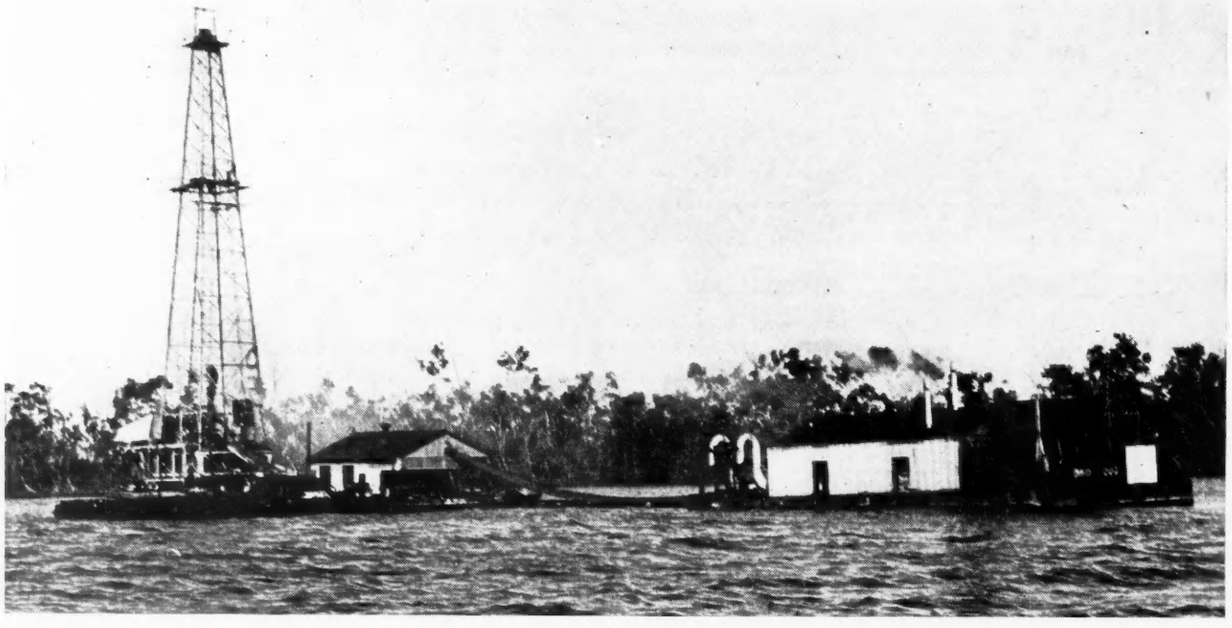
IN EASTERN VENEZUELA

OIL has been discovered and exploited under a wide variety of conditions in many lands, but seldom has its development offered such a range of complex and interesting problems as in Eastern Venezuela. Production is now being obtained from the swamps of Pedernales at one of the delta mouths of the great Orinoco River, as well as from the jungle-covered, steep and broken foot hills of Quiriquire.

Pioneering Efforts

Pioneer in realizing the possibilities of this region, and in financing the expensive preliminary exploration which led to the discovery of the present producing fields, was the Standard Oil Company of Venezuela. Its field parties penetrated a practically virgin area of swamp and jungle which contained only a few widely scattered farming and ranching communities, worked out the geology, and made locations for a series of wildcat tests. Materials for these early wells were transported piece-meal through the coastal swamps and up small streams in primitive shallow-draft dugouts until shoal water was reached. From this point they were hauled to location by tractors, over trails cut out of the jungle. In consequence, the actual cost of these early wells ran into the millions, and the hardships endured by the men who drilled them were considerable. The lack of experienced labor in this area was a great handicap, as well as the absence of local supplies. Materials,

Mess hall for Venezuelan bachelor staff employees.



Drilling in deep water at Pedernales field, Venezuela. The rig uses a Diesel-electric power barge and electrically driven pumps and draw works.

Modern and fully equipped hospital of Standard Oil Company of Venezuela in Quiriquire field.

living accommodations and food were all brought in from "outside."

The first producing field developed was Quiriquire. Commercial production was encountered here in June, 1928, after a series of disappointing tests had been drilled in the vicinity.

Data On Quiriquire

Subsequent step-out wells proved a producing area of 9000 to 10,000 acres lying between the Quiriquire and Azagua rivers, and an average production of 70,000 barrels per day has now been developed. The oil is of asphalt base, ranging from heavy tar to a maximum of 26° A. P. I. gravity, and average about 19° A. P. I. The terrain in this field is extremely rough, its general southerly slope being cut by deep ravines whose steep sides are covered with dense jungle. The trees range up to one hundred feet or more in height, and beneath them vines, small palms and other tropical vegetation run riot. Roads, wherever possible, follow the winding ridges between ravines; derricks are built as near as possible to the desired map locations, avoiding the steepest slopes; and gathering stations are located usually at ravine junctions to obtain fairly level ground for tank batteries, with gravity drainage from the wells above.

Subsurface conditions are fully as complex and difficult as those above ground. The oil-bearing horizons are non-homogeneous and consist of irregular and lenticular beds of sand and conglomerate, interspaced with shales, in a monoclinal shoreline deposit; the producing section varies greatly in thickness, with water above, below, and sometimes in intermediate lenses. Cross correlation is extremely difficult due to lenticularity, although both mechanical coring and electrical logging instruments are made use of. Overlying formations consist of fairly soft shales and sands, and are readily penetrated, but the drilling of the conglomeritic section is very difficult and slow. Rock bits must be used to make any reasonable footage, but even these do not give entire satisfaction because of the irregular nature of the formation.

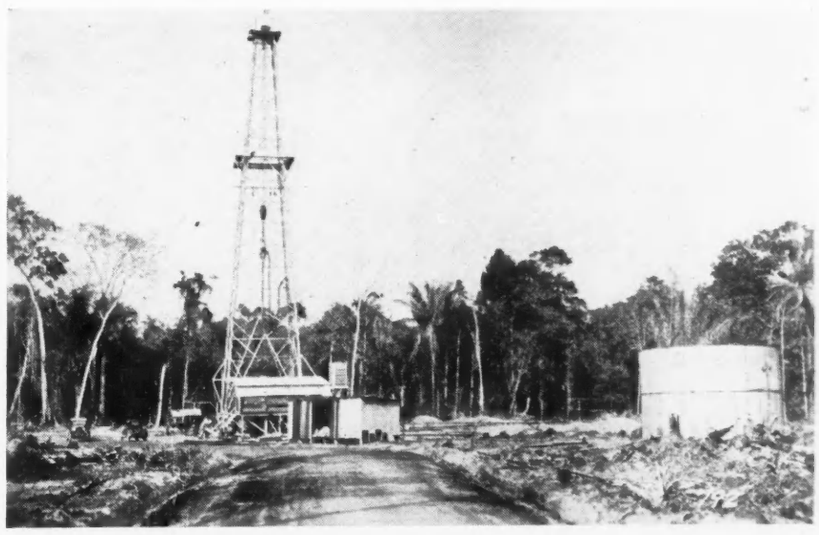
In order to afford better production control, and simplify the exclusion of invading gas or water, the thickest portion of the producing formation has been arbitrarily divided into an upper and a lower zone which are exploited by twin wells. The deeper twin is drilled first, coring all of the producing section, but casing-off the upper zone. The rig is then skidded over and the upper twin drilled at a distance of about 30 feet, using the same pump and boiler set-up. This arrangement has proven highly satisfactory from both drilling and production standpoints.

The oil is pumped from Quiriquire to Caripito, a distance of over 20 kilometers, loaded into shallow draft shuttle tankers which deliver it to a sea-loading terminal at Guiria, and thence exported to Aruba, N.W.I., to Canada, and to the United States. A portion of the oil is also consumed locally through the operation at Caripito of a refinery handling 4500 barrels per day.

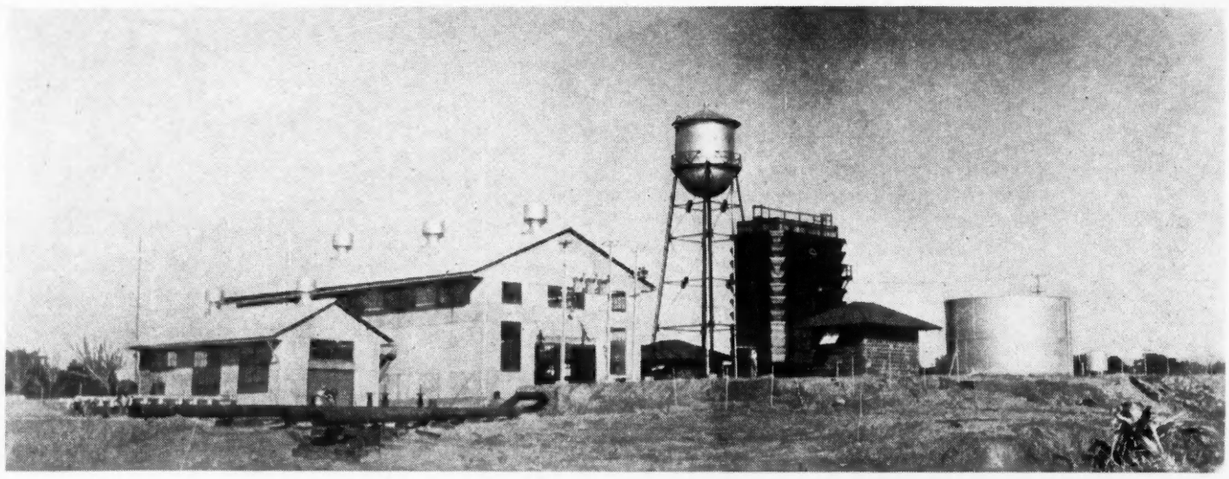
Pedernales a Different Problem

A second field is at Pedernales, in the coastal swamps. Here conditions are also difficult, but entirely different from those at Quiriquire. A heavy asphalt seep gave early evidence of the occurrence of petroleum, but four wells were drilled. Approximately $2,000,000 were spent before commercial production was encountered in August, 1935. There is no solid ground within the present proven area, the majority of locations, both land and water, having so far been drilled on pile foundations. Ground conditions are somewhat similar to the Gulf Coast of the United States, with the exceptions that the marshy shores are here heavily wooded, and the water off-shore is deeper. Marine locations are being drilled with Diesel-electric rig, using three 250 horsepower Diesel engines mounted on a barge and direct connected to 125 K.W. D.C. generators which in turn supply current to motors operating drawworks and mud pumps. The latter are mounted on a second barge with built-in mud pit, and a steel over-deck serving as a pipe rack. This second barge is moored close to the derrick pile foundation, on the "A" side. The complete outfit, including the two barges, costs approximately $300 000.

In order to locate and make available other potential reserves on the concessions granted it by the Venezuelan government, the company is carrying on a widespread wildcatting campaign which costs in the neighborhood of $5,000,000 per year. In Venezuela there is a little opportunity for the small operator to try his luck, the game is too expensive.



Illustrating the type of road that must be built to assure access to Venezuelan wildcats in all weather.



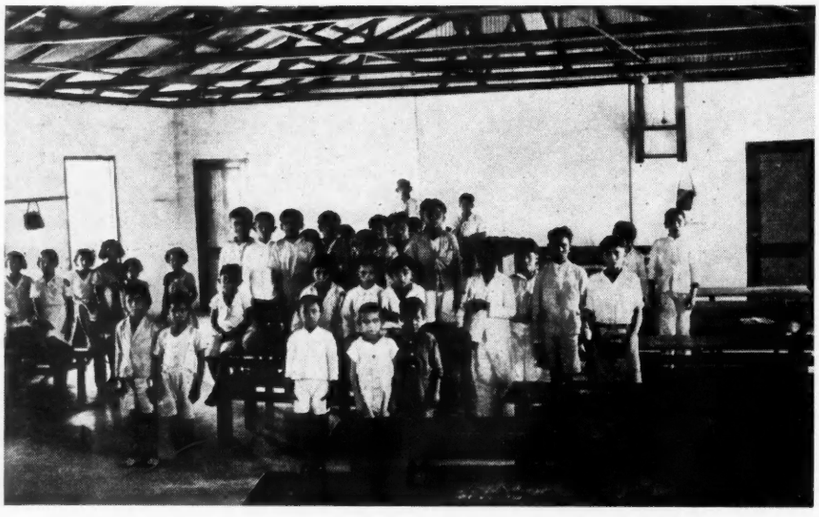
The pump station at Guiria, Venezuela, is used to load overseas tankers.

Consequently, there is little opportunity for a major company to "buy-in" after someone else has made a strike. Any company desiring production must go and find it,, usually after numerous and costly failures, each of which involves just as much road building, construction, material and labor as the lucky well that finally brings results.

A vital factor in the exploitation of Eastern Venezuela is its effect on the inhabitants of this region. Prior to the coming of oil men there was a scarcity of skilled labor in this part of the country. Ranching, farming on a small scale, and fishing offered the only employment available,—and as a result the majority of the people earned very little and were barely able to provide themselves with the simple necessaries of sub-tropical life. In the areas which are now producing oil there were formerly few schools or churches, and no hospitals; many of the people suffering from chronic malaria, under - nourishment, hook-worm, and dysentery. Their homes were mud-walled, thatched huts, with earthen floors and no sanitation. The men of the region were not strong or able to endure hard work, and for this reason, as well as their lack of experience in oil field work, were of little use in early operations.

The change effected in a few short years is remarkable, and for this change the Standard Oil Company of Venezuela deserves full credit. The communities which it has provided for its employees are model groups of sanitary tile buildings with many conveniences; hospitals have been provided, staffed with competent doctors and nurses; schools and school masters are available for their healthy growing youngsters, and churches have been erected where none had been before. The workmen themselves have not only shown a tendency to grow strong and hardy as a result of better food and medical care, but have also been taught to use their heads and hands. Venezuelans now drill Standard Oil Company of Venezuela's wells in the producing fields, lay pipe lines, erect and operate gathering and pump stations, and man the shuttle tankers which carry the oil from Caripito and Pedernales to the sea-loading terminal at Guiria.

As time goes on and Venezuelans become more thoroughly experienced in the various branches of work included in the oil industry, they will still further replace the foreigners now required to conduct operations. Toward this end the company has for several years been following a policy of training Venezuelans to handle more responsible posts.



Venezuelan children learn their three "Rs" from competent Venezuelan teachers in oil company camp schools.

STRIKE THREATENED

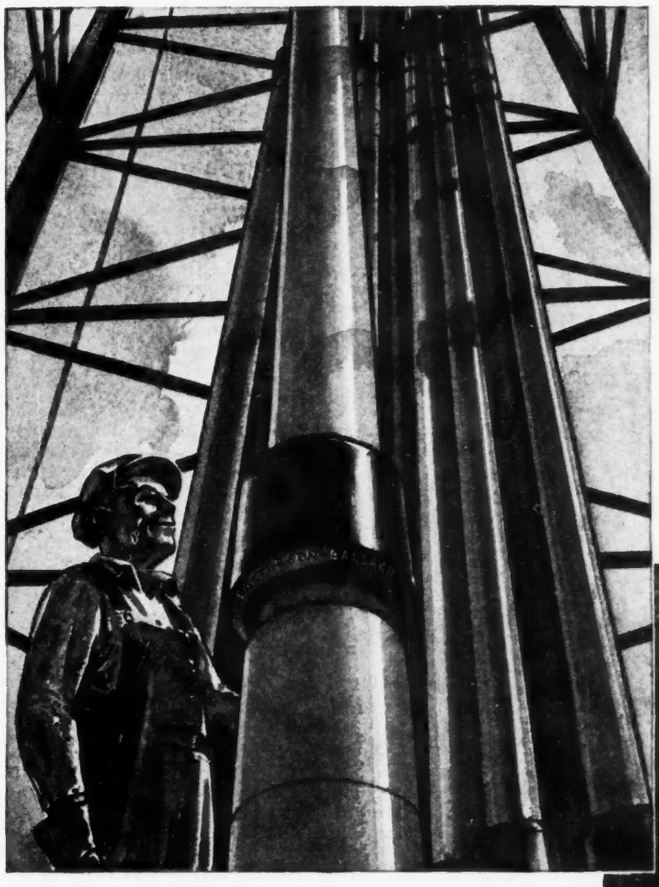
Unusual demands made by oil workers in Mexico

MEXICO CITY

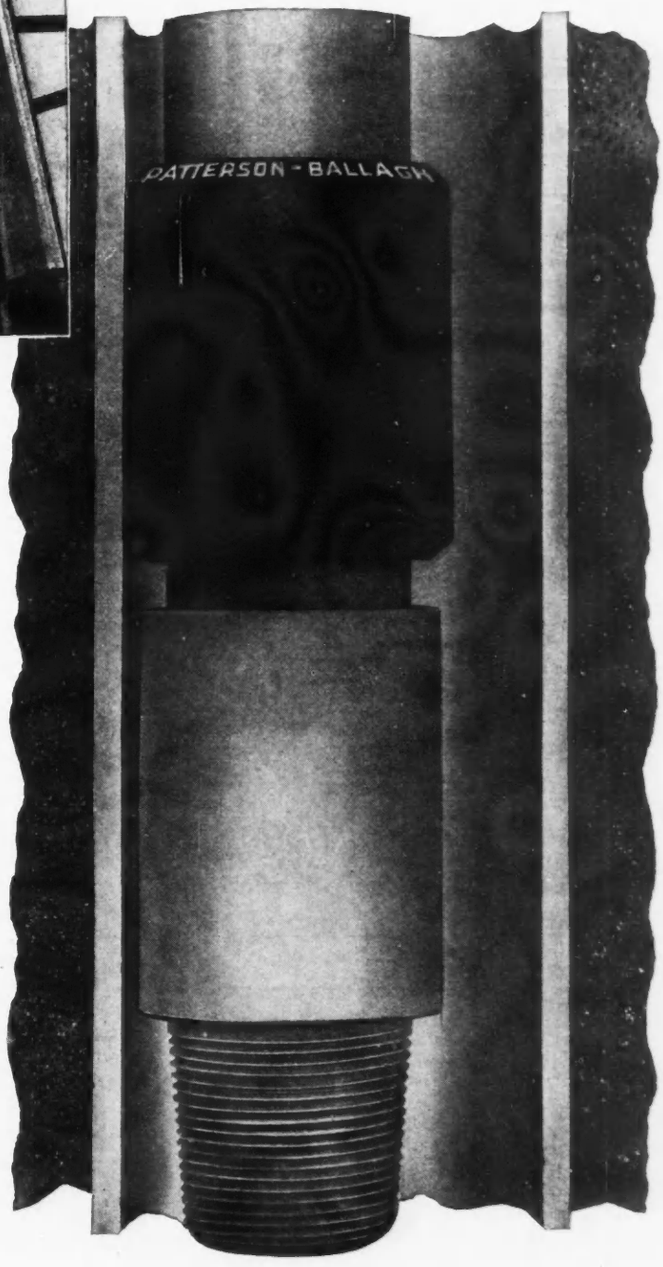
THE specter of a general strike in the Mexican oil industry is stalking again with the threat by organized oil labor of a walkout unless the companies agree to parleys with it regarding the proposition of including in general collective labor contracts a series of demands for economic benefits and a say in operation which, oil men opine, if granted, would virtually toss a foreign investment of some $350,000,000 into the hands of the workers.

Oil companies, as well as the three tanker firms, to which the proposition has been made, aver they are willing to converse with labor about a new general contract law for all oil labor, deeming that one such policy would eliminate much trouble for both sides by wiping out numerous individual agreements, but they do not feel disposed to discuss the matter if labor insists that the basis of the conversation be such demands as:

Eliminating many executive positions held by men of long experience and proven ability, a demand which would limit such posts to: 35 for the Mexican Eagle Oil Company (Royal Dutch Shell), which employs 10,000 persons and is Mexico's biggest petroleum firm; Huasteca Petroleum Company (Standard of New Jersey): 13; Standard Oil Company of California: seven, and Pierce: five; expansion of the company paid workers' housing program, which would cost the companies at least 100,000,000 pesos (some $28,000,000 more than the amounts they are now putting up for that purpose; pay demands which in some cases would allow workers as high as $70 for half an hour's service, for example, a welder earning 26.50 pesos (about $7.40) a day receiving



Every drilling well (Rotary) requires this vital protection



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Besides, there are many demands for free medical services during the sickness of not only employees but their families and relatives, and excessively high pensions. The companies must according to the demands, also pay the wages and expenses of 219 men who are to handle the affairs of each workers' syndicate.

REVIVAL LOOMS
Old wells in Waite Valley may be drilled deeper

Waite Valley, scene of many fruitless attempts to strike oil during the Alberta, Canada, boom of 1928, '29, and '30, may be the scene of a comeback as a result of the interest aroused in the west flank of Turner Valley by the big Turner Valley Royalties crude producer.

Waite Valley lies almost parallel to Turner Valley on the west side of the Turner Valley structure. It is dotted with abandoned mines, none of which, however, were carried down to sufficient depth to adequately test the area. Since 1914 a total of 21 wells have been drilled at Waite Valley, all of which have been abandoned. The deepest went to 4785 feet. It is considered possible that due to recent developments some of these abandoned wells may be opened up again and deepening operations undertaken.

New Test Planned

Early start on operations of a well on the west flank of Turner Valley, about 5 miles northwest of the Turner Valley Royalties producer, was announced recently by Fred W. Elves of Calgary, Brokers Limited. The well probably will be drilled south of the well drilled in Section 19, Township 2, Subdivision 2, by the Advance-Freeman-Lundy group. The announcement is of particular importance in that the new well will test the west flank of Turner Valley north of the crude producers. Several wells are being drilled now on the west flank south of the Turner Valley Royalties producer and a strike at the new well would open up a large area for development.

LARGE BLOCK TAKEN

Home Oil Company, Vancouver, British Columbia, is reported to have taken a 50 percent interest in a 52,000-acre block on Braxeau structure and to have optioned large holdings in Southern Turner Valley, Alberta. The company is prepared, it is said, to arrange for a large development campaign, contingent upon receiving assurance of a government policy of non-interference.

New Fitts Wells

OTHERWISE TULSA AREA HAS QUIET WEEK

WEEKLY STAFF REPORT

Tulsa.—The Fitts field of Pontotoc County came forward as usual last week with several completions. West of Little River, in Seminole County, operators were striving to complete an obstinate well, and in Coal County, Sinclair Prairie Oil Company gave up an effort to find production in Culver 1, in the Clarita area. Other operations in this part of Oklahoma were slow.

Phillips Petroleum Company's Bates 1, SE NE NW 26-2n-7e, at Fitts, continues to show for a commercial producer. After being drilled to 4355 feet in the McLish sand and treated with 2000 gallons of acid, the well flowed 27 barrels of oil in 25 minutes and went dead. Reacidized with 3000 gallons, it flowed 327 barrels of oil in 30 minutes, and was then shut in to take potential.

The other new producer for the area is Sinclair Prairie Oil Company's Wooley 4, SW SE SW 22-2n-7e, which flowed 232 barrels of oil during the first hour through tubing, 528 barrels the second hour through casing, and was then shut in for potential. The well topped the first sand at 4320 feet and drilled to 4375 feet. Tubing was run at 4320 feet.

Blackstock Oil Company's Moody 3, NW SW SW 23-2n-7e, established a 24-hour potential of 1438 barrels of oil and had 1,225,000 cubic feet of gas, producing from 4325 feet in the Viola lime. When acidized with 8000 gallons, it flowed 460 barrels of oil in 6 hours.

E. H. Moore, Inc. Schaurer 14, NE NW NW 29-2n-7e, received a potential of 2059 barrels of oil in 24 hours, the production coming from 4353 feet in the Wilcox sand. Sinclair Prairie Oil Company's Wooley 3, SE SW SW 22-2n-7e, was given a potential of 2550 barrels of oil, production coming from the upper Simpson formation.

Three new locations were made in the field. Skelly Oil Company staked location for Park College 17, SE SW NE 28-2n-7e, and was digging cellar. Metropolitan Life Insurance Company 5, SW NE SW 23-2n-7e, and Metropolitan 6, SEc SW 23-2n-7e, were digging cellar.

Blackstock Oil Company's Daniels 5, NW SE SW 21-2n-7e, topped the Hunton lime at 3518 feet and after drilling to 3875 feet flowed 246 barrels of oil in 1 hour through tubing and had 3,225,000 cubic feet of gas.

In the Jesse pool of Pontotoc County, Mid-Continent Petroleum Corporation's Statler 1, SEc SW 2-1n-7e, flowed 368 barrels of oil in 24 hours. Top of the McLish sand was had at 4575 feet and the crew was running tubing to acidize with 6000 gallons.

W. A. Delaney's Sawyer 1, SW SE NW 7-1n-8e, in the Coal County extension of the Jesse pool, was given a 24-hour potential of 236 barrels of oil.

The disappointment in Coal County was Sinclair Prairie Oil Company's Culver 1, NEc SW 16-1n-8e, in the Clarita area, which topped the Wilcox sand at 5748 feet and drilled to 5766 feet where it had water.

West of Little River, in Seminole County, Wood Oil Company's Ashby 2, SE NE NW 22-7n-5e, topped Viola lime at 4016 feet; dense lime at 4056 feet, and drilled to 4140 feet. Five-inch casing was set at 4060 feet, and the well acidized with 1000 gallons. On a swabbing test, it produced 73 barrels of oil in 12 hours, and was then reacidized with 2000 gallons and shut in to await acid reaction.

Phillips Petroleum Company and Shell Petroleum Corporation's O'Neill 3, SE SW SE 16-23n-2w, in the Billings pool of Noble County, made its first production early last week, flowing 196 barrels of oil in 4 hours with 700,000 cubic feet of gas. The following day, the well made 356 barrels of oil in 8 hours. Both flows were through 2½-inch tubing, at 4258 feet in the Wilcox sand.

Oklahoma operators completed 53 wells during the past week, 36 being for oil with an initial production of 39,286 barrels. Five wells were completed as gassers with a total open flow volume of 86,750,000 cubic feet. Twelve starts were failures.

Scouts reported 44 new starts with Pontotoc County leading the list with 11. Seminole County reported 7 new locations, Osage County 6, Okfuskee County 5 and Hughes and Oklahoma Counties 3 each. Two reports were received from Creek County and 1 each from Cleveland, Comanche, Carter, Murray, Muskogee, Pittsburg and Pottawatomie Counties.

TILLMAN WELL FLOWS

Ardmore.—Indian Territory Illuminating Oil Company's Hatler 1, C SW NE 32-2s-17n, wildcat test in Tillman County, threw mud, oil and salt water through the drill pipe during the completion of a test made of shows encountered above 3814 feet. Two flows of short duration followed the first head of production and operators planned to run pipe through 1500 feet of fluid now standing in the hole for an early test. It is believed that the productive member is of the Cisco series, although the gravity of the oil is 41 degrees, somewhat higher than the gravity of oil obtained in adjacent areas from that horizon. The belief is prevalent that this strike opens a new area to production.

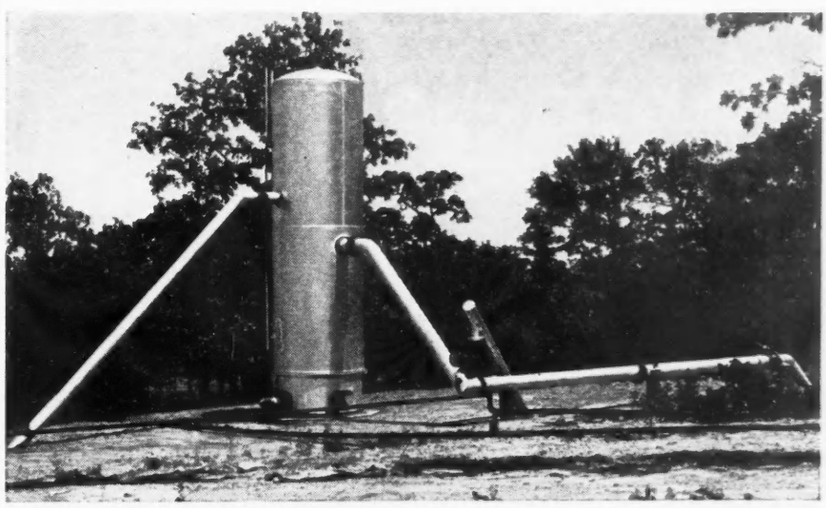
MOORE AND EDMOND

Areas active, not much doing at Oklahoma City

Oklahoma City.—Activity stepped up in the Oklahoma City area, most of it centering around the Moore and Edmond pools. A few wells in the Oklahoma City field continued good production, but operations there stayed at a low ebb.

In the northern part of the Edmond pool of Oklahoma City, Pure Oil Company's Berquist 2, NW SW SE 30-14n-3w, northeast outpost test along the fault line, had run electrical well-logging device to 6734 feet where the Wilcox sand, topped at 6713 feet, showed some saturation. The well had been checking low.

Ohio Oil Company's Johnson 1, SEc 25-14n-4w, key test to the northwest ex-



Hookup on traps in Fitts field for separation of oil and gas. Risers on right-hand pipe leads to gasoline plant, and other to vent line.

pansion of the field, was installing separator and erecting tanks. The plug, set at 6543 feet, was to be drilled early in the week.

In the Moore pool, Cleveland County, operations were started on two wells early last week, although it appeared probable that only one of them would find production in the Wilcox sand. Sinclair Prairie Oil Company's Holmes 1, NEc SE 28-10n-2w, west offset to Gulf Oil Corporation's James 1, started drilling below 7006 feet where casing was run, and was drilling at 7030 feet. Top of the Viola lime was found at 6950 feet, checking with the formation as found in Gulf's well.

About ¼-mile to the southeast, Carter Oil Company's Walker 1, SW NE SW 27-10n-2w, was preparing to drill plugs. Only seven feet of Wilcox sand was found between 7295 and 7302 feet, and it was said to be checking low on other formations in the area.

Gulf Oil Corporation has started a southwest diagonal offset to Walker 1, Allen 1, NE SW SW 27-10n-2w, and cellar and pits were being dug.

Skelly Oil Company was having trouble at Sporn 1, NW NE SW 21-17n-3w, discovery well near Mehan in Lincoln County. The well looked to be completed for a 50,000,000-foot gasser at 465 feet, but when deepening started, drill pipe stuck. It was plugged back and was being drilled by at about 455 feet.

At Oklahoma City, work was going ahead at a more rapid pace than in the past few weeks. Two wells were nearing completion depths in the University hospital area, and work was being started at a test north of the medical school. Knox Garvin's Gray 1, at northeast Eleventh street and Laird avenue was unloading the hole at 6315 feet and started drilling into the Wilcox sand, with the first show of oil and gas expected at any time. Black Gold Oil Company's Hayes 1, near Park Place and Laird avenue, completed unloading the hole and was scheduled to drill in late in the week.

Big Chief Drilling Company started digging cellar and pits for the first test in the extreme northwest corner of tract 3, state land north of the medical school. It was assigned to Big Chief Drilling Company by Bryan Petroleum Company.

SOUTH OKLAHOMA

Ardmore.—Southern Oklahoma remained quiet last week, most reports from the area being of a general nature. Power Oil Company's test in Murray County failed to produce when acidized. In Love County, swabbing started on Stockton 1, November 16.

Near Davis, in Murray County, Power Oil Company's Lancaster Trust Company 1, CSW NE 10-1s-2e, failed to produce after being treated with acid in the Hunton lime at 3002 feet. The rotary rig was to be replaced with standard tools and the hole drilled deeper.

Sinclair Prairie Oil Company's Stockton 1, SEc SW 26-6s-2w, in the Oswalt area of Love County, started swabbing with a hole full of oil coming from Pennsylvania shale.

Gulf Oil Corporation's Johnson 8, CSW SW 28-2s-3w, in the old Fox pool of Carter County, was cleaning out the hole at 7440 feet with 60 feet of water standing in the hole. Operators report they may acidize the well.

Ed V. Parson's Olson 1, CSW SW 21-2n-8w, in the Marlow area of Stephens County, cored from 5538 to 5548 feet and recovered 8 feet of sand with an odor of oil. A second core, taken from 5548 to 5557 feet had a 4½-foot recovery showing sand and sandy shale, the top 2 feet having an odor of oil.

Carter Oil Company's Perkins 1, NW NE NW 4-1s-3w, on the Carter County side of the North Tussy pool, was coring below 2477 feet. A 5-foot core showed oil from 2428 to 2449 feet.

This area continues to be the most active in the southern part of the state. Skelly Oil Company's Miller 1, NE NW NE 5-1s-3w, a recent completion on the Carter County side of the field, swabbed 153 barrels of oil during the latest 24-hour test. Production is coming from between 2615 and 2644 feet.

OKLAHOMA

Completions

Company, Well and Location	Init. Prod. Bbls	Depth
CADDO COUNTY—		
Magnolia, Madrano 6, se ne nw 36-6n-10w (pb 4950)	¶78	6046
CARTER COUNTY—		
Winkler & McQueen, Moore 1, nw ne ne 5-1s-3w	*	3017
F. W. Merrick, Schermerhorn 1-A, ne sw sw 5-4s-3w	5	558
CREEK COUNTY—		
Curtis Oil, Quinlin 1, sw sw se 20-18n-9e	¶3 & 300	2890
G. E. Marble, Tiger 3, cnw ne 13-19n-7e	*	2735
Commercial Drlg., Saab 2, sw sw sw 17-19n-9e (otd 2290)	35	2404
Saab 3, cwl sw 17-19n-9e (otd 2269)	40	2382
GARFIELD COUNTY—		
F. C. Miller et al, Mullen 2, nw se se 11-22n-4w	*	1200
GARVIN COUNTY—		
M. A. Wilder, Yargee 2, se se sw 27-9n-10e	*	2740
Power Oil, Federal Land Bank 1-A, se sw sw 10-4n-3e	*	2458
Cox & Hammon, Davis 4, ne sw se 32-1n-3w	485	2812
Carter Oil, W. Ivey 1, sw sw sw 33-1n-3w (pb 2565)	277	2826
HUGHES COUNTY—		
Harmann, Meadors 1, sw se nw 27-9n-10e	*	2345
JACKSON COUNTY—		
Gulf Oil, Southern 2, se se se 31-1n-19w	42	2652
JEFFERSON COUNTY—		
Red River Oil, Trout 1, se ne ne 6-8s-7w	*	2202
KIOWA COUNTY—		
J. M. Young, Cooke 1, ne ne nw 33-2n-16w	*	677
George Ferris, Pfenning 1, ne ne ne 6-6n-16w	*	353
OKFUSKEE COUNTY—		
Blackwell, Dolton 8, nw se ne 36-10n-8e	540	1749
Dolton 9, sw ne ne 36-10n-8e	432	1742
Chapman & Atlantic, Natchee 1, nw nw se 19-10n-9e	90	1809
Sinclair Prairie, Palmer 3, se se nw 19-10n-7e	60	1836
Grimes, Alexander 1, sw ne ne 35-11n-9e	15	1473
OKLAHOMA COUNTY—		
Sunray, State 11, ne nw nw 27-12n-3w	7744	6500
Sinclair Prairie, Dills 1, ne ne nw 17-13n-3w	¶5 & 1000	6670
Ohio Oil, Dahl 3 (Acct. No. 2), nw ne sw 31-14n-3w	¶8 & 5581	6705
OKMULGEE COUNTY—		
Hazlett, Dunbar 7, nw sw sw 30-14n-13w	25	1960
Francis Corp., Robertson 1-A, ne nw sw 33-15n-14e	¶1½	1681
Bruce Peterson & Hester, Trent 1, se se se 28-16n-13e	¶5½	1467
OSAGE COUNTY—		
Ohio Osage Oil, 31, sw sw sw 9-21n-9e	20	293
Pure Oil, 1, ne ne ne 19-22n-10e (otd 1842)	200	2018
Idaho Oil, 1, ce½ e½ sw 18-22n-12e	4	1835
Lewis Prod., Mullendore "B" 15, ne nw nw 21-24n-7e	258	2721
I. T. I. O., 392, ne ne ne 29-25n-8e (pb 1864)	¶1½	1894
PONTOTOC COUNTY—		
Continental, House 3, nw ne se 12-1n-7e (pb 4716)	¶2 & 66	4721
Magnolia, Metropolitan Life 23, se sw se 22-2n-7e	¶2¼ & 2416	4345
Sinclair Prairie, Wooley 5, se se sw 22-2n-7e	¶3 & 219	3575
Simpson, Westheimer 3, se nw nw 26-2n-7e	¶3 & 3256	4278
Magnolia, Metropolitan Life 25, ne nw sw 27-2n-7e	¶3 & 3672	3541
Sinclair Prairie, Burris 13, nw nw nw 27-2n-7e	¶3 & 5664	3500
Mabee Oil, Smith 1, sw sw nw 28-2n-7e (pb 4240)	960	4284
Crosbie, D. Hardin 2-B, nw sw ne 30-2n-7e	¶2½ & 4546	3716
Mid-Texas, Henderson 1, sw se nw 30-5n-4e (pb 1997)	*	2030
POTTAWATOMIE COUNTY—		
Magnolia, Brandenburg 7, sw nw nw 18-7n-5e	150	4074
Continental Oil, Milsey 2, se sw sw 11-7n-6e (otd 4318)	45	4342
SEMINOLE COUNTY—		
Carter Oil, Wrightsman 1, nw ne ne 19-9n-6e (otd 4211)	22	4259
Campbell, Knapenburger 5, ne ne ne 17-9n-7e	¶6 & 785	3461
Rogers, Hall 1, se se ne 17-9n-7e	¶1 & 153	3459
Exchange Drlg., Mills "B" 1, nw se se 19-9n-7e	*	3463
Carter Oil, Wilson 1, nw sw sw 26-11n-6e	112	4113
E. W. Jones, Bond 1, nw sw sw 18-6n-8e	*	3165
STEPHENS COUNTY—		
George Pace, Payne (Fee) 11, ne nw nw 28-2s-7w	35	1696
Raizen Brothers, Price 6, nw se sw 10-3s-5w	32	1461
TULSA COUNTY—		
Sand Springs Home, Adkins 1-A, sw se sw 31-18n-13e	¶1¼	1892

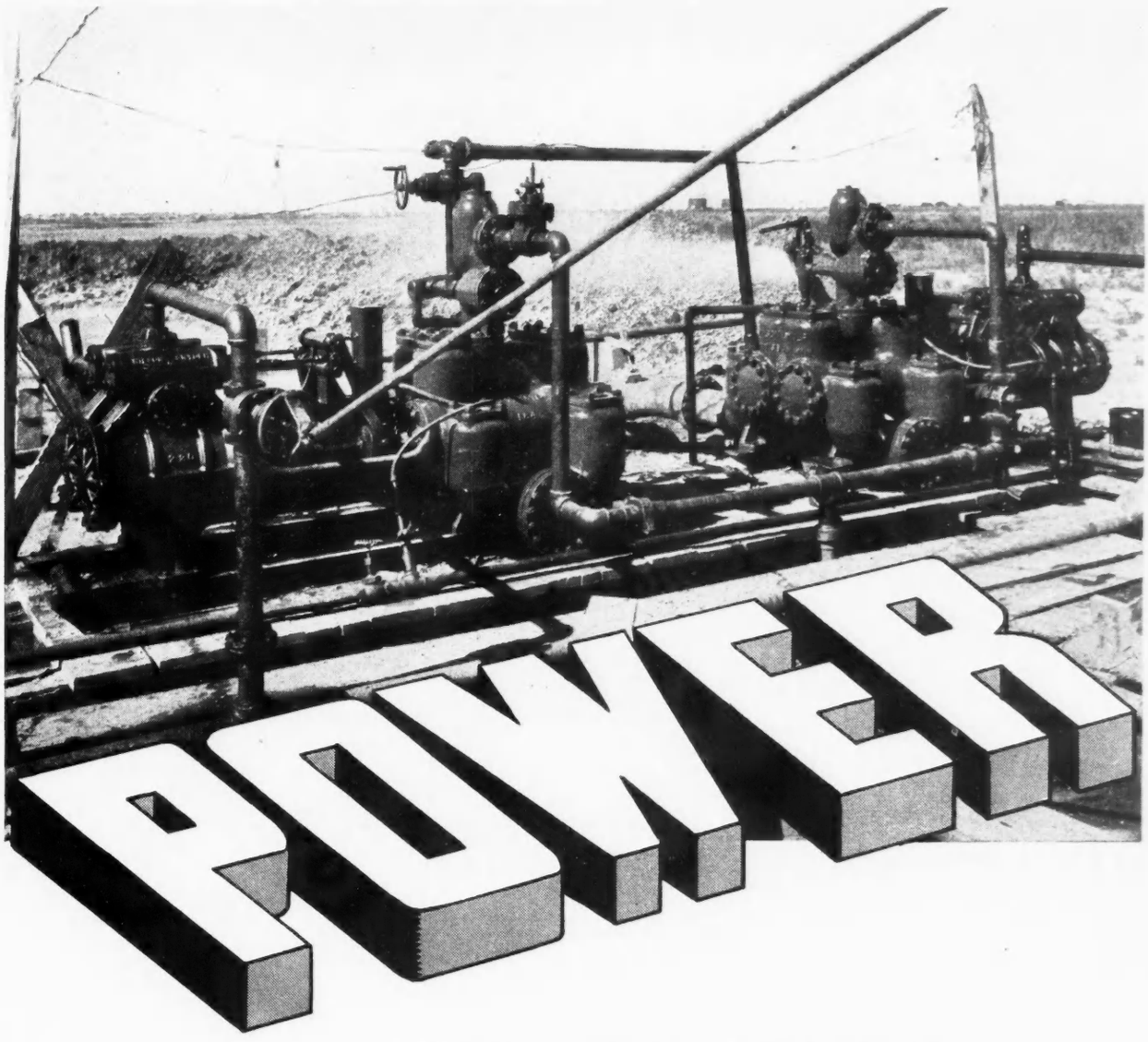
*Failures; †Junked; ¶Million cu. ft. gas.

KANSAS

Completions

Company, Well and Location	Init. Prod. Bbls	Depth
BARTON COUNTY—		
Darby & Smith & Ash, Turgeon 2, sw sw sw 9-16s-12w	392	3353
Darby, Kultgen 4, cs½ n½ nw 16-16s-12w	235	3417
F. E. Bailey et al, Hammeke 1, ne ne sw 12-18s-12w	*	315
Lario et al, Myers 2, sw se sw 13-20s-11w	2210	3274
COWLEY COUNTY—		
Blackgold, Smallfield 1, nw nw sw 8-35s-3e	30	3496
ELLIS COUNTY—		
Ryan Consolidated, Bemis "A" 2, sw nw nw 22-11s-17w	2020	3401
Champlin Ref. et al, Hadley 1, se sw ne 30-11s-17w	*	3830
Glick & McMorrow, Staab 1, sw sw se 6-13s-17w	*	3640
ELLSWORTH COUNTY—		
Continental, Jansen "B" 5, ne se sw 34-17n-8e	640	3271
GREENWOOD COUNTY—		
Simmons & Amerada, Ellis 11-A, nw nw sw 26-23s-11e	100	1924
Lykes et al, Beauchat 3, cs½ nw se 5-24s-12e	40	1820
HARVEY COUNTY—		
Western Kansas O&R, Dettweiler 1, ce½ se ne 2-23s-2w	2530	2993
Palmer et al, McBurney 2, csw nw 12-23s-2w	¶1½ & 1508	2976
KINGMAN COUNTY—		
Skelly, Radcliffe 8, sw sw nw 30-27s-10w	¶5 & 192	3440
McPHERSON COUNTY—		
Dickey et al, Goering 3, ne se se 17-21s-1w	2000	3331
Continental, Blair 1, sw sw sw 21-21s-1w	1508	3338
RENO COUNTY—		
Olson & Shell, Krehbiel 1, cs¼ s½ nw 26-23s-4w	728	3581
England 6, ne sw se 34-23s-4w	40	3375
Falcon-Seaboard et al, S. Collins 1, cne sw 16-24s-4w	812	3381
Sinclair Prairie, Seedle 4, ne se ne 17-24s-4w	1134	3379

(*See page 60*)



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Deepest Well Flows

CLARK COUNTY TEST FLOWS 2,358 BARRELS INITIALLY

WEEKLY STAFF REPORT

Wichita.—An extensive drilling campaign for southwestern Kansas seemed assured last week as the state's deepest well, Olson Drilling Company's Morrison 1, in Clark County, came in for good production from the Viola lime at 6481 feet. Morrison 1, CSE SW 17-32s-21w, near Lexington, on a 24-hour potential test made 2358 barrels of oil, from 6481 feet in the Viola lime, topped at 6456 feet. Seven-inch casing was cemented at 6265 feet before acidizing with 3000 gallons. Little gas was encountered in the flow, the oil testing 41-62 gravity. The potential was based on a six-hour flow through three-inch tubing.

Wallace & Shaffer's R. J. Tucker 1, SWc 20-24s-4w, may extend the Stone-Burrton field of Reno County. The hole filled 2500 feet with fluid from chat from 3338 to 3382 feet. A swabbing test was begun to exhaust water encroachment.

York State Oil Company's Gugler 1, SWc 36-12s-21w, filled 1800 feet with oil after acidizing the Siliceous lime at 3834 feet. This well, if completed as a commercial producer, will open the third pool for Trego County.

In Ellis County, Lario Oil & Gas Company's Marshall 1, NW SE NE, northeast of Hays, was completed for 795 barrels of oil natural from Siliceous lime at 3650 feet. Located two miles northeast of the discovery producer in the Walters pool, the test opens another new pool for the county. The discovery producer was completed for 1132 barrels of oil from the Topeka lime, and was also drilled by Lario Oil & Gas Company.

Wolf Creek Oil Company and others are to deepen Dreiling 1, NWc SW 4-12s-17w, ¼-mile southeast of production in the Shutts pool. The old total depth is 3347 feet, where the well appeared to be good for about 100 barrels of oil natural on the basis of a preliminary test. It will be carried down about 25 feet, or to the next break in the lime.

Rice County reported two new producers in the Silica pool. The Texas Company's Schartz 2, SEc 33-19s-10w, topped Siliceous lime at 3310 feet and set casing at 3331 feet, following which the hole filled with oil. It was acidized with 2000 gallons and pumped 490 barrels of oil in 24 hours. The same company's Kleile 3, NWc SW 34-19s-10w, topped Silicous lime at 3315 feet and set casing at 3316 feet. It was drilled to 3331 feet and acidized with 2000 gallons, following which it pumped 155 barrels of oil and 30 barrels of water in 24 hours.

Mid-Continent Petroleum Corporation's Wood 3, SE NE NE 4-20s-10w, topped Siliceous lime at 3330 feet and drilled to 3341 feet, showing some saturation. Pipe was set at 3336 feet and after being drilled to 3345½ feet, with hole filled 1500 feet with oil in 10 hours. It was acidized with 2000 gallons.

Oil was showing through approximately 400 feet of water at Carlock & Trigg's Dewesse 1, SW NW NW 32-20s-7w, north of production in the Saxman pool. The hole was bottomed at 3332 feet in the conglomerate.

Tatlock et al's Drew 1, NWc SW 5-20s-10w, appears to have extended production in the Silica pool to the south and east, filling 2300 feet with oil in 2½ hours from Siliceous lime at 3311 feet. Location has been staked for Drew 2, NEc NW SW 5-20s-10w.

Tom Deal et al's O'Connell 1, NWc NE 14-21s-7w, recent extension well in the Hauschild pool, Rice County, was waiting on pipe line connection before taking a production test. Bottomed at 3382 feet in the conglomerate, the hole was standing full of oil and was making some gas. It is believed the new producer will have to be agitated before it will flow. Location has been staked for Hauschild 1, SWc, SE 11-21s-7w a direct north offset to O'Connell 1.

L. C. Dean et al's Westhusin 1, CNE SE 11-9s-17w, may open a new pool for Rooks County. The well swabbed 165 barrels of oil in 24 hours from 3242 feet in the Lansing lime, following which it was acidized with 5000 gallons.

In Barton County, Vickers Petroleum Company's Ehly 1, SEc SW 15-16s-12w, was pulling pipe and setting tanks preparatory to drilling the plug at 3324 feet. Located 1½ miles southeast of production in the Beaver pool, Ehly 1 got a hole full of oil at 3332½ feet in the basal sand. The well may be deepened about 2 feet before a production test is taken.

Skelly Oil Company's Bloomer 4, SE SW NE 36-17s-11w, in the Bloomer pool of Barton County, was completed for 2582 barrels of oil natural coming from Siliceous lime at 3628 feet. Bloomer 3 recently was completed for 2637 barrels.

Joe Aylward et al's Reidl 1, CNE 13-18s-16w, in the Otis gas field of Rush County, was completed for 46,000,000 cubic feet of gas from the Reagan sand at 3515 feet. Interstate Production Company's Brack 1, CNE 12-18s-16w, was completed for 41,000,000 cubic feet of gas from the Reagan sand at 3538 feet.

The first well in the Ritz-Canton area of McPherson County to find oil in the Wilcox sand, E. B. Shawver's Kaegi 2, NE NW NW 21-19s-1w, swabbed 61 barrels of oil on a second 24-hour potential test from 3429 feet.

Chris Sheedy's Tipton 2, SEc NE NW 28-25s-14e, southwest of Yates Center in Woodson County, was completed for 275 barrels of oil from the Bartlesville sand at 1416 feet. It was shot with 100 quarts.

Tri-County Gas Company et al's Campbell 1, NWc SW 32-25s-35w, southeast of Lakin in Kearney County, the well which opened a new gas area for Kansas, had an open flow of 2,500,000 cubic feet from 2636 feet. Operators reported the hole would be deepened about 30 feet.

The largest gas producer in the Hugoton gas field of southwestern Kansas was completed by Stevens County Oil & Gas Company at Buddenburg 1-C, CNW 26-33s-29w. The well flowed more than 17,000,000 cubic feet of gas from 2750 feet. Kuhn Brothers' Light 1, CSW 23-33s-39w, was completed for more than 16,000,000 cubic feet of gas. It was drilled for the Texas Interstate Pipe Line Company.

Indian Territory Illuminating Oil Company's Bolt 1, CNW NE 5-29s-11w, southeast of Pratt in that county, was abandoned at 4597 feet in Siliceous lime, top of which was found at 4579 feet. Water was found from 4590 to 4592 feet.

A total of 39 completions were reported by Kansas operators for the closed week, with 28 wells coming in for initial production of 23,397 barrels of crude. Three wells were gassers with a total open flow of 102,000,000 cubic feet. Six resulted in failures and there were two locations abandoned.

Kansas scouts sent in reports on 25 scheduled starts, with Russell County leading with 7 and Barton and Butler Counties making 3 reports each. Cowley, Reno and Rice Counties had two reports each and Coffey, Ellis, McPherson, Rooks, Sumner and Woodson Counties, one each.

Hobbs, New Mexico.—Crude oil runs during October by pipe lines serving fields in Lea, Eddy and San Juan Counties set a new peak level with an aggregate of 2,508,558 barrels, or at average rate of 80,921 barrels daily, according to C. G. Staley, proration umpire. September runs averaged 75,052 barrels daily.

Kansas Completions

[*Continued from page 58*]

Company, Well and Location	Init. Prod. Bbls.	Depth
Derby, Beltz 3, se sw sw 4-26s-4wN	728	4110
Dickey et al, Williams 1, se se se 5-26s-4w	*	4089
Stanolind-Amerada, Moore 1, ne ne se 8-26s-4w (pb 4039)	480	4041
RICE COUNTY—		
Stapleton et al, Callis 1, nw ne se 16-19s-9w	*	3258
Phillips et al, Krampe 12, nw ne se 31-19s-10w	923	3290
Texas Co., Carl Kleile 3, nw nw sw 34-19s-10w	55	3329
RUSH COUNTY—		
Interstate Prod., Brack 1, cne 12-18s-16w	¶41	3538
Aylward Prod., Reidle 1, cne 13-18s-16w	46	3515
RUSSELL COUNTY—		
Stanolind, Dortland 1, ne ne se 5-14s-15w	1008	2776
Darby, Dumler 5, se nw nw 11-14s-15w	592	3320
Michaelis 1, ne se nw 31-15s-13w	596	2896
Shell, Michaelis 2, nw se ne 31-15s-13w	1945	3307
Empire, Bender "C" 2, cel nw 26-15s-14w	248	3356
STEVENS COUNTY—		
Interstate Prod., Light 1, cne 23-33s-39w	¶15	2614
TREGO COUNTY—		
Watchorn & McNeeley, Kraus 2, csw se 15-11s-23w	428	3554
WOODSON COUNTY—		
Sheedy et al, Tipton 5, se ne nw 28-25s-14e	275	1461
Tipton 2, nw ne ne 29-25s-14e	*	1463

*Failures; †Junked; ¶Million cu. ft. gas.

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Well Output Lower

ADJUSTMENT MADE TO PERMIT NEW PRODUCER PRODUCTION

WEEKLY STAFF REPORT

Hobbs, N. M.—Allowable production of prorated wells in most Lea County fields was reduced 3 barrels to 97 barrels daily effective November 16. This cut was imposed by order of the Oil Conservation Commission to enable new wells added during the fore part of the month to share in the state's allowable of 83,500 barrels daily without boosting the latter. The revised proration schedule lowered the allowable of the Hobbs field to 23,324 barrels daily, or a cut of 823 barrels. Monument field remained unchanged at 12,000 barrels daily allowable, where it has been pegged since last September 16 due to restriction of runs by its two major pipe line outlets, but the average yield per well was cut to 52.17 barrels daily as result of the addition of 11 wells during the fore part of November. The market and transportation situation at Monument is expected to be relieved early next year. In the meantime development of the field has not been retarded.

Lea County contributed 15 oil producers the past week, and 8 wells were in the Monument field. New locations dropped off to 8 during this period, with Eunice and Monument each adding 3 tests. The other 2 were assigned to the East Jal and South Eunice sandy-lime areas.

Monument Producer

Southeast portion of the Monument field scored the largest producers on the current list of additions. Sun Oil Company's D. L. Laughlin 1, C NW SW 4-20s-37e, flowed 507.96 barrels of fluid, 7.8 percent wash water, on 4-hour gauge through 1-inch tubing choke, with 200 pounds back pressure on tubing. The well is bottomed at 3889 feet, or 321 feet subsea. The company's Laughlin 2, west offset, was completed at 3891 feet, or 321 feet below sea level, and gauged 143 barrels on last hour of 10-hour gauge through open tubing. Both wells produced natural. Bottom-hole pressure in this sector averages about 1440 pounds. The highest is credited to The Texas Company's State 1-K, C SE SE 18-19s-37e, situated on the north line of production, and it is prorated on a basis of 1470 pounds with an allowable of 56 barrels daily.

Amerada Petroleum Corporation, discoverer and largest producer at Monument, boosted its total wells to 59 in completing 2 last week. This company's T. Anderson 1, C NE SW 8-20s-37e, flowed 39 barrels per hour natural through open 2½-inch tubing, with packer at 3824 feet, after drilling to 3876 feet, or 320 sub-sea, and its State 5-T, C SW NE 20-19s-37e, gauged 229 barrels in 12 hours through open tubing after treating with 2000 gallons of acid twice at 3997 feet, or 317 feet below sea level. Operations have been started on State 3-T, C SE NW 25-19s-36e. Tide Water Associated Oil Company's T. Anderson 2, C NE SE 8-20s-37e, tested 88 barrels per hour natural through 1-inch choke from lime at 3880 feet. Gulf Oil Corporation's D. A. Williams 2, C SW SE 29-19s-37e, proved to be a light well in yielding 107 barrels oil in 6 hours through open tubing after using 2000 gallons of acid at 3914 feet. This company's State-Graham 8-C, C NW SE 25-19s-36e, flowed 190 barrels in 6 hours on preliminary gauge after using acid at 3975 feet. Ennisbrook Oil Corporation is starting operations on State 1, NW NW NW 17-20s-37e, and contract has also been let for the drilling of Anderson-Prichard Production Corporation's H. M. Britt-Conoco 1-B-5, C SE SW 5-20s-37e.

Shoot Eunice Wells

Nitro shots were utilized on 4 tests in the Eunice lime area the past week. Texas Pacific Coal & Oil Company's State 2-A, Lease 2, C NW SW 5-22s-36e, was cleaning out cavings after nitro shot of 280 quarts at 3758-3847 feet and showing for a flowing producer. It was drilled to 3960 feet, or 368 feet sub-sea, then plugged back to 3857 feet because of bottom-hole water. Continental Oil Company and The California Company's A. E. Meyer 16-B-4, center lot 8, 4-21s-36e, gauged 25 barrels of 34.2 gravity oil per hour on three-quarter-inch tubing choke after 156-quart nitro shot at 3729-3835 feet, and Meyer 3-B-18, C NW NW 18-21s-36e, tested 51 barrels of 34.6 gravity oil in 9 hours on gas lift through 15/64-inch choke after 180-quart nitro shot at 3877-3945 feet. This partnership's A. M. Lockhart 4-B-14, C SE NE 14-21s-36e, gauged 25 barrels of 34.9 gravity oil per hour on ¾-inch choke after 188-quart nitro shot at 3774-3861 feet.

60 Barrels Per Hour

Initial flow of 60 barrels of oil per hour was attained by Sun Oil Company's J. A. Akens 4, C NE SW 3-21s-36e, northeast edge of Eunice field, after second treatment of acid in lime at 3860 feet, or 290 feet sub-sea. The well failed to flow steady when treated with 4000 gallons of acid solution, but kicked off when followed with 5000 gallons. Considerable pressure was needed to complete the first injection, while the second treatment penetrated the dolomite section almost without supplementing the oil load. New locations assigned the Eunice field included two on the extreme northwest border of production, and included Atlantic Refining Company's State-Catron 4-L, center lot 4, 6-21s-36e, and Gulf Oil Corporation's State-Orcutt 5-C, C SE SE 36-20s-36e. Humble Oil & Refining Company has started work on J. D. Knox 7, C SW NE 10-21s-36e.

Potential rating of Magnolia Petroleum Company's E. O. Carson 2, C NW NW 33-21s-37e, recent completion in sandy-lime zone in the North Eunice field, was raised from 228 barrels to 327 barrels daily after using 3000 gallons of acid at 3786 feet. The pay zone was shot with nitro for original completion. Immediately south of the town, Empire Oil & Refining Company is starting operations on R. L. Brunson 1, NW NW SE 4-22s-37e, a semi-wildcat. In the East Jal area, Anderson-Prichard Production Corporation, Oklahoma City, is starting up on C. M. Carlson 2, C SW NW 21-25s-37e, offsetting production. Repollo Oil Company's Robt. Jamison 1, SW SE NE 21-24s-37e, north offset to Plains Production Company's recent semi-wildcat strike, was flowing 100 barrels daily at 3494 feet with an elevation of 3227 feet. The Texas Company's J. D. Young 1, SE SE SE 5-24s-37e, semi-wildcat, was flowing by heads while drilling at 3553 feet, with an elevation of 3278 feet.

NEW MEXICO Completions

Company, Well and Location	Init. Prod. Bbls	Depth
LEA COUNTY (Eunice Field)—		
Conoco & California Co., A. M. Lockhart 4-B-14, c se ne 14-21s 36e	1200	3861
A. E. Meyer 16-B-4, C lot 8, 4-21s-36e	1200	3835
A. E. Meyer 3-B-18, c nw nw 18-21s-36e	300	3945
Gulf Oil Corp., State-H. W. Leonard 3, c nw ne 22-21s-36e	2500	3895
Humble, State-Aggies 2, c sw sw 31-20s-37e	375	3850
Sun Oil Co., J. A. Akens 4, c ne sw 3-21s-36e	1440	3860
LEA COUNTY (South Eunice Field)—		
Skelly Oil Co., G. W Sims 1, c ne nw 10-23s-37e	252	3635
LEA COUNTY (Monument Field)—		
Amerada Pet Corp, T Anderson 1, c ne nw 8-20s-37e	1200	3876
State 5-T, c sw ne 20-19s-37e	450	3997
Gulf Oil Corp., Harry Culp 3-b, c se se 31-19s-37e	400	3895
D. A. Williams 2, c sw se 29-19s-37e	428	3914
Ohio Oil Co., Barber 4, c ne sw 5-20s-37e	2500	3895
Sun Oil Co., D. L. Laughlin 1, c nw sw 4-20s-37e	4000	3889
D. L. Laughlin 2, c ne se 5-20s-37e	3500	3891
Tide Water-Associated Oil Co., T. Anderson 2, c ne se 8-20s-37e	3600	3880

*Failures; †Junked; ¶Million cu. ft. gas.

CANADA PRODUCTION

Production of crude oil and naphtha in Alberta, Canada, during September totaled 120,210 barrels, and of this amount, Turner Valley field contributed 117,509 barrels, according to the petroleum and natural gas division of Alberta's department of lands and mines. August production for the province was 124,287 barrels. Turner Valley Royalties Company's well, completed in mid-June as a crude discovery well, had produced 86,927 from then through the end of September, a daily average of about 812 barrels.

Treat Discovery Well

GAS INCREASES FASTER THAN OIL IN SEMINOLE PRODUCER

WEEKLY STAFF REPORT

Midland, Texas.—Acid treatment was underway late last week on Amerada Petroleum Corporation et al's S. J. Averitt-Ohio 1-A, discovery oil well for the Seminole geophysical prospect, Gaines County, which has been in process of completion since November 13 in dolomite lime at 4996-5022 feet, with an elevation of 3318 feet. The well was due to be treated with 2000 gallons of acid solution. Production during the 24-hour period ending 7 a. m. November 19 included 73 barrels of fluid, testing 66 percent oil and balance wash water, and 6,780,000 feet of gas flowing through open 2½-inch tubing and one three-inch outlet on the 7-inch casing cemented at 4812 feet. Volume of cut oil was reduced to about one percent at the end of this gauge, indicating the well had about finished cleaning itself.

Gas flow increased out of proportion to the oil yield, and four unsuccessful attempts were made to install packer on tubing so as to exclude dry gas encountered below the casing seat and above the saturated oil zone. The high-pressure gas kicked out a large quantity of small lumps of dolomite and supposedly eroded the exposed hole so that packer would not remain in place. The oil tests 32 degrees gravity, and is contaminated with sulphur.

Ownership and operation of the Seminole area's first oil producer reverts to Harry Adams et al upon completion in accordance with contract made by Amerada Petroleum Corporation and five majors. However, the latter will be reimbursed in full from one-half of the oil production for the cost of the well and cash advance made in taking over temporarily Adams et al's offset gasser, which had been junked at 4910 feet. This gasser was plugged back to 3609 feet,* and tests 450,000 feet of sweet gas from Yates sand and anhydrite. It supplied fuel for generating electricity used for power by Noble Drilling Company in drilling the oil well. This upper gas zone is capable of yielding about 500,000 feet of sweet gas daily through bradenhead on the oil producer.

Lease contract expirations falling due early in 1937 will have a tendency to stimulate development of the Seminole area. Majority of the lease owners are majors, favoring a well spacing program of one well to each 40-acre unit. Location of the oil well was spotted at center of 40-acre site in order to encourage such a spacing program. Amerada Petroleum Corporation holds two direct offsets to the producer, while Shell Petroleum Corporation and Ohio Oil Company are confronted with one offset. These will be drilled in the near future, as the discovery will likely produce and sell its allowable to an independent refinery at Lubbock, Texas, making deliveries in tank trucks. This plant is buying oil from isolated wells in Cochran and Yoakum Counties.

Amerada Petroleum Corporation is starting operations on C. E. Robbins 1, C NW NW Section 9, Block A-22, PSL Survey, southern Gaines County, and 1¼ miles south of a small pumper recently completed by Landreth Production Corporation as the first oil well in the county. Stanolind Oil & Gas Company's Dewey Davis 1, located 1¼ miles north by west of this wildcat producer, was recently abandoned at 5012 feet in sulphur water, and drilling is in progress below 1900 feet on J. A Morrow 1, located 3½ miles west of the failure.

Texas Pacific Coal & Oil Company's Mrs. Ruth Bennett 1, located about one-half mile west of the lone wildcat oil producer in Yoakum County, registered 47 feet higher structural position in logging top of Yates sand at 3180 feet, with an elevation of 3559 feet. It was drilling below 3400 feet late last week.

Big Wells at Henderson

Completions in the Henderson field, Winkler County's most prolific area, included several big wells the past week. Atlantic Refining Company's Fred Leck 5-A, NW SW SW Section 34, an inside location, gauged 218 barrels oil per hour average on 12-hour test through open 2½-inch tubing from dolomite lime at 3050-3086 feet. This company has added to its holdings by acquiring 50 percent interest and control of Wahlenmaier Petroleum Corporation's Leck 80-acre lease, embracing the N½ SW¼ Section 3, with two big wells for a reported consideration of $50,000 cash. Two more wells are required by offsets. Champlin & Bass, Inc., Dallas, completed J. W. Hess 1, SEc Section 4, flowing 107 barrels per hour natural through three-quarter-inch tubing choke from regular lime horizon. Sinclair Prairie Oil Company's Fred Leck 3-A, NE NW SE Section 33, gauged 1751 barrels natural in 24 hours through open tubing from lime at 3050-3086 feet.

Plugging orders were issued the past week on two Ector County wildcats. Sinclair Prairie Oil Company's J. L. Johnson 1-A, about 3 miles northeast of production in the Foster field, quit in lime at 6098 feet, with an elevation of 3005 feet. It established a depth record for the county. York & Harper, Inc. and Amon G. Carter's P. Slator 1, situated 5½ miles west by south of nearest production in the Goldsmith field, encountered more water at 4750-4758 feet, and was abandoned.

Coleman, Texas.—Coleman Refining Company, owned by Ray T. McGlothlin and Walter L. Jones, is erecting a 1000-barrel capacity crude skimming plant near the Overall field, Coleman County. Five-year contract has been made to run a minimum of 600 barrels daily to be delivered by the Anzac Oil Corporation, principal producer in the field. The latter has taken over field gathering system formerly used by Atlantic Pipe Line Company, which discontinued purchases, and will connect with the new plant. McGlothlin and Jones also own the Mid-Way Refining Company, which operates a skimming plant at Goldsboro, Texas.

NORTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls	Depth
ARCHER COUNTY—		
Nick Anagnos et al, J. S. Bridwell 9	*	952
Bridwell Oil Co., L. F. Wilson 1-E, sec 117	*	2270
Clyde Gibson et al, J. F. O'Donohoe 1, sec 95	*	1614
Huggins Oil Co., H. Wilmot 1, blk 8	*	1802
Kimbell Bros. & Bohner, J. D. Carpenter 13, sec 89	65	1057
Morrison, Boardman & Deaton, T. C. Moss 1, sec 1	*	973
Rathke Oil Co., G. P. Meade 1, blk 39	10	1455
White & Duncan, J. M. Inman 1	*	785
J. H. White & King Oil Co., K&K 12-A, blk 42	10	646
COOKE COUNTY—		
Denver Prod. & Ref. Co., Ed. Wilson 8	225	2003
R. B. Farris et al, M. R. Miller-Andrews 1	*	3614
Whitfield et al, F. C. Owen 4	240	1933
JACK COUNTY—		
Gwynn & Overby, W. B. Lowe 2	405	2995
Thos. D. Humphrey et al, B F. Rankin 4	484	2990
Iron Mountain Oil Co., F. H. Rhodes 2	240	2377
MONTAGUE COUNTY—		
Bourland et al, Crownover 1	*	1609
Bridwell Oil Co., J. S. Dennis 2-B	*	955
FHE Oil Co., D. A. Lauderback 4	24	1247
Lesh & McCall, R. W. Cunningham 11-A	30	940
Jim Seeds et al, S. G. Combs 1, sec 58	*	2521
WICHITA COUNTY—		
C. B. Bailey et al, Munger 33, blk 30	*	1100
Brashear Drlg. Co., Waggoner Est. 3, blk 148	*	2203
C. B. Christie et al, W. L. Hodges 1-A	40	1748
G. W. Cooper et al, Waggoner Est. 15-C	78	1650
Culbertson Co., Waggoner Bros. 79, sec 13	*	1609
Perkins-Cullum Oil Co., B. H. Preston 1, blk 6	*	1651
Pois & Schultz, Foster 1-C, sec 2	100	1280
Geo. Proctor et al, Foster-Allen 1, sec 1	*	1426
Mrs. Annie M. Rowe et al, Waggoner Bros. 8, blk 13	96	1320
Wilson & Ligon, Foster-Allen 4, sec 1	125	1271
WILBARGER COUNTY—		
Waggoner Ref. Co., Waggoner Est. 1-CC, sec 5	36	1106
YOUNG COUNTY—		
F. J. Albrittain et al, W. W. Gregg 2, blk 17	*	652
Benson Estate et al fee 1, sec 1391	*	965
Bohner & Gilmore, Prideaux 3-A, blk 15	138	575

(Continued on next page)

Company, Well and Location	Init. Prod. Bbls.	Depth
Brazos River Bed Oil Co., Brazos River-Colquitt 1,	¶14½ & 1500	3942
Cable Oil Co.-Prideaux Bros, Prideaux 1,	*	645
C. B. Collard et al, R J Calvin 2,.	*	638
Cox & Hawtof, Lowe 2, sec 2244..	*	676
N. D. Goldsmith et al, Annie Bearden 4, sec 2,	40	1094
G. E. Griminger et al, Prideaux 5,.	211	737
Hamilton Pet Co., J. K. Jeffery 17, sec 53,	*	848
L. G. Hawkins et al, J. M. Kirkland 17, sec 2249	*	715
B. N. Honea et al, fee 16, 1492..	*	942
J. H. Kleiner et al, Graham 16, sec 2249	60	665
Jack Latson et al, B. F. Barrett 3..	8	585
B. F. Barrett 4	15	787
L. A. Long et al, S. R. Jeffery 2..1800		3991
J. J. Moran et al, W. B. Howard 13, sec 3401	*	914
Nash-Windfohr Oil Corp-Bob Thompson et al, Graham 22, sec 3410...	200	2600
A. C. Parks et al, J. W. Bishop 1, sec 1443	*	705
E. C. Reed et al, H. P. Cunningham 2-A, sec 1912	*	512
O. L. Swanson et al, W. F. Bailey 12, sec 166	2	861
Underwood Drl. Co.-Campbell, Campbell 25-C, sec 3401	*	1014
Campbell 26-C, sec 3401	*	997
Worth Oil Co., I. E. Self 1	*	795

*Failures; †Junked; ¶Million cu. ft. gas.

WEST TEXAS Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CRANE COUNTY (McCamey Field)—		
Continental Oil Co. et al, Cowden 5-B	204	2470
CRANE COUNTY (Waddell Field)—		
Gulf Oil Corp., M. F. Henderson 6	25	3622
ECTOR COUNTY (Harper Field)—		
Shell, E. F. Cowden 1	243	4355
ECTOR COUNTY (Wildcat)—		
Sinclair Prairie, J. L. Johnson 1-A	*	6098
York & Harper, Inc.-Crafton Oil Co., P. Slator 1	*	4758
GAINES COUNTY—		
Stanolind, Dewey Davis 1	*	5012
JONES COUNTY—		
N. H. Martin & Son, M. & E. B. Spurrier 2	*	2135
LOVING COUNTY (Wheat Field) —		
Ninety-Two Pet. Co., Reagan-McElvain 2	45	4234
PECOS COUNTY (Netterville Field)—		
Tex-Mex Pet. Corp., Netterville 4..	40	2400
PECOS COUNTY (Torborg Field)—		
Stanolind, J. H. Tippett 15-A	180	371
PECOS COUNTY (Yates Field)—		
Cardinal Oil Co., M. A. Smith 1-F	250	1832
SCURRY COUNTY—		
Coffield & Guthrie, Inc., J. J. Moore 3	5	1908
UPTON COUNTY (McCamey Field)—		
M. D. Bryant et al, J. W. Robbins 2	1031	2222
Dirks Bros. et al, J. W. Robbins 2	903	2246
Shell, Della Bowen 33	835	2145
G. M. Smith & Cravens, A. Reese-Conoco 5	1029	2407
WARD COUNTY—		
California Co., Hardage-Wilson 3..	357	2525
Empire O&R Co., McDonald 12	1339	2470
Richardson Oils, Inc., J. H. Hathaway 7	5213	2593
Skelly Oil Co., J. H. Hathaway 2..	7268	2580
W. H. Martin 3	1607	2533
Tide Water Associated Oil Co., C. D. Mason 5	275	2505
WINKLER COUNTY (Henderson Field)—		
Atlantic Ref. Co., Fred Leck 5-A	10,000	3080
Sinclair Prairie, Fred Leck 3-A	5000	3086
WINKLER COUNTY (Keystone Field)—		
Amon G. Carter et al, J. B. Walton-Pure 4	410	3350
Illinois Oil Co., W. A. McCutcheon-Conoco 6-A	639	3000
Magnolia, J. B. Walton 13	402	2970
J. B. Walton 39	175	2982
Monday Oil Co., Abilene Central State Bank-Conoco 6	889	2975
Sinclair Prairie, H. E. Cummins 1-C	192	3010
J. B. Walton 7-B	1348	2970
J B Walton 4-C	1301	2975
Siosi Oil Corp, J C Lovett 3	760	3155
R A Westbrook Oil Corp, L Daugherty 8	706	3030
T G Hendrick 11	662	3096

*Failures; †Junked; ¶Million cu. ft. gas.

TEXAS FRANCHISE TAX*

Proposed bill would be a heavy burden to industry

THIS bill levies a five percent net income on all corporations which, of course, means all corporations having net income.

But it also includes a levy on all corporations which do not have a net income, by taxing their gross assets one tenth of one percent ($1.00 per thousand).

In 1932 the tax survey committee of the Forty Second Legislature at page 141 of its report found that in the previous year, 1931, there were (in round numbers) five thousand Texas corporations which reported net income for federal tax purposes of $147,688,000, (one hundred forty seven million, six hundred and eighty eight dollars). The same report at page 140 contained a tabulated statement showing what a corporate tax on net income would have yielded in Texas for the year 1931 at different flat rates, and the estimate for a five percent flat rate without deduction for the year 1931 would have yielded in round numbers, seven million, three hundred and eighty two thousand dollars ($7,382,000). So that this bill and an income tax product will bring at least $7,382,000.

This same report at page 141 shows that in that year 1931, there were seven thousand (7000) corporations in Texas that showed no net income, and only five thousand (5000) that showed profits in net income. That is to say, that the profitable corporations were in the minority. Now, under the present bill the non-profitable corporation must pay a franchise tax on its gross corporate assets. That is, one tenth of one percent or $1.00 per thousand.

I have no way just now to show the comparison between the corporate assets of the profitable and non-profitable corporations that are scheduled on page 141 of that report. It would, however, be safe to assume that the five thousand profitable corporations had gross assets of substantially the same amount as the seven thousand that showed no profit. If this assumption is a fair one, then it may also be assumed that the franchise tax which would have been collected under this bill if it had been the law in 1931, would have been as much as fourteen million dollars ($14,000,000). We all realize that the 1936 corporate reports, both as to net income and gross assets, will vastly exceed those of 1931. Let us assume, for the sake of argument that this bill would on the 1931 reports have earned only ten million dollars ($10,000,000), instead of fourteen as above suggested. Then, is it not a perfectly reasonable assumption that the bill as now drawn when applied to 1936 business will yield more than ten million?

Now, there are more than 20,000 corporations in Texas at this time. Of this 20,000 there are a few classes that pay heavy occupation or gross receipts taxes. They are (1) transportation companies, (2) utilities, (3) oil, (4) sulphur, (5) gas, (6) text books. Now it will at once be recognized that this small classification represents but a very small part of our corporations as a whole, numerically speaking. I doubt if there are more than one thousand (1000) corporations as a whole in this group of six classifications that pay this gross receipts tax. Yet this one thousand corporations paid gross receipts, occupation taxes, if you please, of eleven million dollars ($11,000,000) in 1935, and we can safely assume that they will pay eleven, possibly twelve million in 1936, for the privilege of doing business. Now this bill will saddle on this one thousand corporations that are already paying an occupation tax of eleven million dollars, the added tax burden of at least five percent of their net earnings, or, in the alternative, one-tenth of one percent of their gross assets. While a franchise tax may not technically be an occupation tax, yet it is in effect the same.

*Reprinted from "Texas Industry," By Clarence R. Wharton, Attorney.

Double Tax

An occupation tax paid in gross receipts is for the privilege of pursuing an occupation, doing business while a franchise tax, whether measured upon net income or gross assets, is for the privilege of doing business as a corporation. I have always felt that a franchise tax is legally an occupation tax, though it is a question that I don't stop to discuss here. A thousand corporations out of twenty thousand have imposed upon them a double tax of very near the same character. They are already paying eleven million dollars per annum for the privilege of doing business, and this bill will levy on them many more millions per annum, for the privilege of doing business *under a corporate name*. It seems to me that the answer is obvious. These corporations that are now paying eleven million dollars for the privilege of doing business, should not have added to their burden the several millions more imposed by this act, for the privilege of doing business *under a corporate name*, while all of the other nineteen thousand corporations in Texas who do not pay an occupation tax through gross receipts will escape this burden of double taxation.

It seem to me that if this added burden of several millions for the privilege of doing business under a corporate name, is to be added to corporations in general, that those who are now paying eleven million dollars occupation taxes should have some credit for the occupation taxes they are already paying, some offset against this additional levy. Otherwise, the taxes are not equal and uniform. They are heavily discriminatory. And at the very same time that this bill is being pressed forward embodying a double levy for occupation purposes, upon the thousand corporations that are now paying eleven million in gross receipts, there are other bills pending before this committee increasing these gross receipts levies very materially. In the year 1935 the franchise taxes collected in Texas from all corporations were, in round numbers, one and one half million dollars. If this bill will yield ten million dollars, as I have assumed above, then the present franchise tax is being increased as a whole, about seven times. Such an increase in any tax should call for the deepest thought, and certainly one which increases the franchise tax seven times, upon a limited number of corporations already paying eleven million dollars occupation taxes is open to the just criticism that it is double taxation.

The corporations of Texas are largely its industry. A levy of ten or more millions on the industry of Texas at this time should not be made.

Three Locations

EMPIRE FIRST MAJOR TO START AT SULPHUR BLUFF

WEEKLY STAFF REPORT

Mount Pleasant, Texas.—Empire Oil & Refining Company, first major to enter the Sulphur Bluff field, Hopkins County, as an operating unit, has authorized three locations for the north and east lines of its J. E. Worsham 150-acre lease. Two offset recent flowing producers added by Dilworth S. Hager, W. P. Luse and Russ Petroleum Company on the discovery tract. Water supply must be developed before drilling starts.

Gulf Oil Corporation is reported to have contracted to farm out its Mrs. J. K. Pierce 225-acre, Jas. A. Craft Survey, and also the A. A. Basham 217-acre lease, Wm. Cole Survey, to F. D. Jones Drilling Company, Dallas, et al for an unannounced consideration and 3/16 overriding royalty. The Pierce tract lies between production, with one producing offset on each side. Withdrawal of Gulf Oil Corporation from direct participation in the development of the area eliminates the most promising pipe line connection, as Gulf Refining Company, pipe line division, operates trunk lines a short distance to the east and south of the field. A limited market for the field's 24-25 gravity sulphur oil will be provided by American Liberty Pipe Line Company, which is preparing to build a 6-inch line from its 25,000-barrel field tank to Talco, where connection will be made with Humble Pipe Line Company in making deliveries on a common carrier basis to the East Texas refining centers.

Operations have been started on Worsham 5 and 7 by the Hager-Luse-Russ interests after completing two flowing wells last week. Their Worsham 4, NEc of 192.26-acre tract, gauged 166 barrels pipe line oil in 3 hours on open tubing test from Paluxy sand section at 4501-4537 feet. Top of series was called at 4471 feet, with an elevation of 443 feet. This producer cut through the fault plane at 3160 feet. Proration gauge given Worsham 3, reported last week as a flowing well, showed a yield of 54 barrels the first hour, 58 barrels the second hour and 60 barrels on the third hour from Paluxy pay at 4476-4526 feet. Log shows the fault was cut at 2775 feet. Both wells registered 225 pounds closed-in pressure.

Talco field averaged 8079 barrels daily from 115 flowing and pumping wells for the week ending November 16. Survey of field activity reveals 33 rotary rigs in service on drilling tests, or wells in process of completion. Development is widely scattered, with tests on the extreme east and west ends of the producing area.

Humble Oil & Refining Company's J. M. Belcher 1, SEc of 166.37-acre tract and G. Belcher Survey, easternmost test, encountered salt water in Paluxy at 4390 feet, or 4018 feet below sea level. Seven-inch pipe was cemented on bottom at 4401 feet, then perforated above 4357 feet to complete. Top of oil saturation was logged at 4209 feet, or 3837 feet below sea level.

Cores taken from Basal Trinity sand series in deepening to 5158 feet failed to show oil or gas in the southeastern Lamar County wildcat of Jas. A. Forrester, Kansas City, and associates' J. F. Woodward 1, about 1½ miles east by south of Minter. Recovery made at 5133-5138 feet yielded coarse grained sand and gravel. Operations on this deep prospect were halted at 5129 feet for several months, and recently a string of pipe was cemented to permit deeper drilling. The anhydrite section was logged at 3735-4075 feet, with an elevation of 402 feet.

Humble Oil & Refining Company's Easter 1, Trinity prospect for eastern Rains County, was drilling in lower Woodbine series at 4755 feet, with an elevation of 438 feet.

TEXAS PANHANDLE

Completions

Company, Well and Location	Init. Prod. Bbls	Depth
GRAY COUNTY—		
Gulf Oil Corp., E. G. Barrett 5	730	3305
S. Faulkner 5-A	178	2952
Hagy-Harrington & Marsh, J. J. Frashier 1	¶19.2	2685
Kewanee O&G Co., R. Arnold-Morgan 8	683	3266
King Oil Co., J. C. Vallmert-North 5	495	3279
Magnolia, John Haggard 8	215	3310
Skelly Oil Co., A. J. Chapman 1	*	2950
HUTCHINSON COUNTY—		
Stanolind, H. B. Terry 4	171	3008

*Failures; †Junked; ¶Million cu. ft. gas.

COLLIN COUNTY

Dallas, Texas.—Swabbing test given E. A. Parkford et al's northeastern Collin County wildcat on the Mrs. W. L. Fagg 38-acre tract, Jas. Rutherford Survey, about 2 miles northeast of Blue Ridge, eliminated the Paluxy sand section of the Trinity as a possible source of production at 2771 feet by yielding fresh water. The head of water could not be lowered below 2000 feet. Owners plan to resume drilling, as the test is contracted to drill to 3500 feet. Considerable interest was centered upon the outcome of this Paluxy sand test, as a thick section of sand was logged and reports credited it with showing evidence of oil saturation. Trading was mostly confined to royalty deals, although majors and independents were prepared to stage a big lease play in the general area in the event of an oil producer.

Port Bolivar Company's O. G. Durning 1-A, Wm. Creager Survey, 2½ miles northeast of Anna, Collin County wildcat, was preparing to drill plugs late last week from 7-inch casing cemented at 3899 feet to test reported oil saturated formation encountered in the middle Pennsylvania series in drilling to 4098 feet. Six unsuccessful drill-stem tests were made at the latter depth, according to R. B. (Bob) Pender, manager, and favorable porosity was recorded by an electrical formation surveying instrument at 4080-4098 feet. Bottom hole pressure bomb showed 2325 pounds.

BUILDING TANKAGE

Tyler.—Atlantic Pipe Line Company is erecting a 55,000-barrel crude storage tank near its booster station on the W. P. Moore tract, M. J. Pru Survey, Joiner section of the East Texas field, in order to accumulate pipe line runs in this area while its 10-inch trunk line alternates in moving Rodessa crude to its terminal at Atreco. Reports credit Atlantic Petroleum Purchasing Corporation with having contracted to purchase 7500 barrels of Rodessa crude daily from the United Pipe Line Company, owner of an 8-inch carrier that links the Rodessa field with storage adjacent to the East Texas field.

EAST TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls	Depth
JOINER AREA—		
Arkansas Fuel Oil Co., E. M. Beall 11 (79.47-ac)	10,000	3719
Humble, R. E. L. Silvey 55-A (458.97-ac)	6500	3700
J. H. & I. W. Wooley 31 (201.53-ac)	6800	3648
Hunt Oil Co., R. W. Fair 29-C (211.4-ac)	9600	3619
W. P. Moore 15 (82.67-ac)	10,500	3625
Magnolia, Irion-Wright 37 (166-ac)	8800	3691
Ortiz Oil Co., H. M. Hale 9 (40¼-ac)	390	3752
Sun Oil Co., M. M. Burns 10 (109.98-ac)	480	3744
Texas Canadian Oil Corp., A. Kersh 7 (101.76-ac)	1200	3634
Vaughn Prod. Co., W. O. Alford 10 (79-ac)	6500	3793
Ward Oil Corp., F. J. Cox 4 (20-ac)	1500	3696
KILGORE AREA—		
American Liberty Oil Co., Tom Beall 1	*	3782
W. W. Bradley et al, M. J. McNeeley 3 (42.54-ac)	*	3721
Central Commercial Oil Co., King-Shell 8 (44.4-ac)	6000	3718
H. S. Christian et al, fee 3 (11-ac)	1200	3623
Devonian Oil Co.-Gulf, R. A. Motley 36 (442.1-ac)	1200	3697
H. H. Groneman-Acme Oil Co., M. Mayfield 5 (35-ac)	240	3610
Gulf Oil Corp., C. E. Christian 30-C (277.85-ac)	8000	3706
M. E. Peterson 13 (93-ac)	5300	3636
Hester & Silvey, P. C. Warren 1 (22.7-ac)	1500	3827
Humble, L. D. Crim 175 (914.51-ac)	7000	3591
Meco Prod. Co., T. Williamson 10 (150-ac)	3000	3715
Overton Ref. Co.-Van Hacker, Morris 2-A (26½-ac)	2000	3635
Tom Potter-H. R. Burden, G. W. Culver 6 (55½-ac)	80	3533

Company, Well and Location	Init. Prod. Bbls.	Depth
Royal Pet. Corp., G. C. Gunn 2 (51½-ac)	160	3590
Shell, B. F. Laird 28-A (211.35-ac)	9000	3606
Sinclair Prairie, J. E. Lawther 21 (317.68-ac)	120	3610
Snowden & McSweeney Co., R. H. Stanolind et al, M. R. Terrell 3 Laird 22 (133.1-ac)	7000	3587
(50-ac)	1200	3676
LONGVIEW AREA—		
Atlantic Ref. Co., W. R. Nicholson 12-A (94.6-ac)	7700	3664
Barnett Pet. Co., G. C. Cannon-Stanolind 2-B (40-ac)	2500	3638
Ed. B. Cox & Jake Hamon, L. A. Rodden 17 (110-ac)	9000	3559
Deep Rock Oil Corp., B. Jones 22 (61.12-ac)	10,500	3650
Empire O&R Co., L. A. Jeter 21 (122.24-ac)	9200	3588
C. A. Lee et al, J. E. Bunch 1-A (46/100-ac)	1500	3579
Magnolia, W. R. Nicholson 8 (49.16-ac)	8400	3675
W. E. Jones 17 (116¼-ac)	8800	3677
Shell, H. Hampton 21 (169-ac)	10,600	3652
Sinclair Prairie, J. W. Akin 18-B (100-ac)	9700	3580
I. Isley 15 (100-ac)	11,000	3535
M. Moncrief 51 (307.7-ac)	9600	3591
Southland Drl. Co-United E&W Oil Co., O'Byrne 33-A (304-ac)	600	3677
Stanolind, J. D. Davis 14-A (80.68-ac)	7300	3593
Sun Oil Co., J. T. Loden 14 (100.58-ac)	6800	3654
Tide Water, J. J. Castleberry 25 (202-ac)	4000	3614
Arch Davis 19 (130-ac)	10,400	3560
ANDERSON COUNTY (Cayuga Field)—		
Roeser-Pendleton, Inc., V. W. Boyer 2 (200-ac)	750	4084
FRANKLIN COUNTY (Talco Field)—		
Magnolia & Humble, C. L. Owings 3 (119¼-ac)	360	4300
Neversuch Oil Co., E. L. Phillips 1 (40-ac)	96	4330
HENDERSON COUNTY (Cayuga Field)—		
Cortex Pet. Co., I. A. Harton 2 (52-ac)	3500	4107
HOPKINS COUNTY (Sulphur Bluff Field)—		
D. S. Hager, W. P. Luse & Russ Pet. Co., J. E. Worsham 3 (192.26-ac)	1376	4526
J. E. Worsham 4 (192.26-ac)	1328	4537
TITUS COUNTY (Talco Field)—		
G. M. W. Oil Co., A. V. McElroy 1, C lot 2, blk 27	360	4350
Housh & Thompson, Inc., C. M. Carr 1	301	4338
Humble, Mrs. Myra Galt 2 (80-ac)	301	4338
A. P. King-Hughes 11 (1053.36-ac)	284	4322
Magnolia, Belcher 2 (80-ac)	750	4328
NAVARRO COUNTY—		
P. S. Groginski et al, S. P. Love 1 (130-ac)	*	4223
RUSK COUNTY—		
John W. Merritt et al, J. A. Stallings 1 (47-ac)	*	3922

*Failures; †Junked; ¶Million cu. ft. gas.

Austin, Texas.—The Railroad Commission approved last week permits for drilling 144 new wells in the state. This was a decrease of 161 from the previous week.

West Texas operators listed 46 new locations with 13 in Winkler County and 11 in Ward County. Panhandle operators reported only five permits.

There were 44 permits for wells in Southwest Texas with 30 in Zapata County. The Gulf Coast listed 20 locations.

East Central Texas reported eight permits and there were four from the East Texas field, with two in Rusk County, one in Gregg County and one in Upshur County.

West Central Texas reported 15 permits and there were two from North Texas.

VALLEY LEASE DEALS

Mission.—Large lease deals and more deep wildcat locations were included in new developments in the Rio Grande Valley territory during the week. These deep explorations are being carried on in well controlled areas with the majority of the blocks being controlled by single companies.

Pantana Petroleum Corporation and Speed Drilling Company are preparing to stake a new location near their 7800-foot gasser which has been burning for many weeks. Its fire has ceased, but the crater continues to blow considerable gas and salt water. It is possible that a directional hole will be used to kill the wild flow.

McCollum Exploration Company has spudded J. C. Engelman 1-B, 1½ miles southeast of this gasser and this company is drilling at a shallow depth on J. McDougal 1, one mile south of the gasser. Both are 8000-foot tests.

The majority of the leasing was done in Brooks County, where close to 100,000 acres have been taken within the past few weeks by different concerns. Humble Oil & Refining Company is credited with having acquired the McGill Brothers 68,000-foot tract. B. A. Skipper acquired 10,000 acres of the Scott and Hopper ranch in the Encantada Grant, west of Encino, the price being reported at $11 per acre cash. Mills Bennett Production Corporation has acquired a large ranch in the Palo Blanco, El Tule and Guadalupe Grants, in the northern portion of the county, for a consideration reported to be in excess of $45,000.

Crater of National Oil Company's Missouri Pacific 1, Heart of the Greta field, Refugio County, South Texas, as seen from the derrick of the relief well through which water is now being pumped in effort to kill the gas flow.

Three Discoveries

NUECES COUNTY GETS TWO EXTENSIONS AND NEW SAND

WEEKLY STAFF REPORT

Corpus Christi.—Nueces County retains the top position of interest in the South Texas Gulf Coast District with more strikes indicating a furtherance of the already boom-like drilling campaign. Field extensions and new sands were included in the week's discoveries in this area.

Texon Drilling Company's Clara Driscoll Sevier 1, in the South Agua Dulce field, Nueces County, was still out of control and burning late November 20, after blowing out at 6832 feet November 19. It started gassing from around the surface casing while drilling at this level and in a few moments was commencing to crater. Eight craters formed within a radius of 1000 feet of the well and five of them were on fire. The well is making a large volume of gas and some oil.

It is not known from just which formation the oil and gas is coming. It is possible that it is in an entirely new sand or is from the producing horizon recently established by this company in several offsets to the wild test. The upper sand was topped at 5735 feet in the Sevier well, and on a drill stem test showed for a wet gasser. The showing of a volume of oil indicates that the wild flow is not from the 5700-foot level.

The South Agua Dulce field is slightly more than one mile southwest of the Agua Dulce field and ultimately may be merged into it. The area to the north produces from several shallow gas sands and a distillate horizon around 4900 feet.

Preparations were being made late in the week to drill plugs in W. L. Hinds and Phillips Petroleum Corporation's Clara Driscoll Sevier 1-A, southeast corner of west one-half Section 60, 2 miles northwest of the Clara Driscoll field, also Nueces County. While the well is closed as to information, it is understood that a sand in the Frio was encountered at 5710-30 feet and that the test was drilled ahead to 6000 feet. Casing was set through the sand and it will be gun perforated for production. The completion of this well as a producer will not only widen the Clara Driscoll field, but will establish a new producing horizon nearly 2000 feet deeper than the present deepest sand.

Another producing sand for Clara Driscoll field appeared likely November 20 with Wellington Oil Company and Pan American Production Corporation's Sevier 1-A, just southeast of the field, coring a gas sand with gasoline odor from 5256-5281½ feet. A hard sand cap was encountered at 5281½ feet and another core was being taken.

Extend Saxet Deep Sand

The third discovery of the week in Nueces County was in the Richardson Production Company's Maggie Harrell 2, which extended the 6300-foot sand of the Saxet field about 2 miles to the northeast. The well cored sand in sidetracked hole at 6319-44 feet, set casing to bottom, perforated at 6326-35 feet and completed. It is ungauged, but is flowing through ⅛-inch choke showing tubing pressure of 1800 pounds and casing pressure of 2400 pounds.

Flour Bluff, Saxet, Saxet Heights and Clara Driscoll are busy Nueces County areas. Minor extensions continue to be provided to these fields through a series of outpost wells.

A hot wildcatting campaign is underway just southwest of Corpus Christi, where three 7000-foot tests are drilling and several more are planned for the near future. Fearis and Cosner's M. L. Stockton 1, Section 25, Laureless Farm Tracts, found a good oil show in sand at 4520-32 feet, but recovered 1900 feet of salt water on a 10-minute drill stem test and it is drilling ahead. Richardson et al's R. S. Carter 1, Section 8, is drilling ahead below 5325 feet, after logging a sand section between 3895-3917 feet showing both oil and gas. Seaboard Oil Corporation and I. J. Allen are down 5310 feet in J. O. Chapman 1, Section 80.

J. S. Fabriguze, representing an Eastern concern, purchased the lease on 12,090 acres of the Chapman Ranch for a consideration of $181,320 in cash, a large unannounced oil payment and an agreement to drill two 7000-foot tests. The tracts involved include sections 33, 49, 50, 51, 52, 68, 69, 70, 71, 83, 84, 85, 86, 87, 104, 105, 106, 107, 120, 121, 122 and 123. This acreage is in the midst of the hot play referred to in the preceding paragraph.

Just across the Nueces County line, into Jim Wells County, John F. Camp Drilling Company's W. E. Pope 1-B, Section 13, gives promise of opening another producing level for the Bentonville-King area. A drill stem test was run in sand at 5415-20 feet, about 50 feet below the regular producing level of the field.

Continental Oil Company's Vandenberg (Austin) 1, Section 12, in the Seadrift area, Calhoun County, has been definitely abandoned at 8825 feet. The well failed its several attempts to overcome the heaving shale hazard. Further plans on this prospect have not been announced. The company, however, is moving to Matagorda County, for a heaving shale operation there.

Tidewater Oil Company's E. G. Landgrof deep test in the extreme eastern portion of Refugio County, had progressed to 6629 feet in sand late in the week. It likely will be carried to 8000 feet.

Eleanor Oil Company continues to test William Kline test 2½ miles southeast of Gregory in San Patricio County. The well drilled to approximately 6800 feet, where drill stem stuck. It is reported to have plugged back and attempted to test in the section between 6270-6434 feet, developing only a little gas and salt water. Hooper and Rutherford's J. D. Willis 1, an east offset, was close to 6000 feet and ready to start coring for the sand. Both wells are closed on information, hence all data are approximate. Texon Drilling Company staked a location and was preparing to move in for J. H. Harvey 1, northwest corner of Block 13, Rincon subdivision, George Sargent survey, about five miles north and slightly west of the above two wells.

Plymouth Oil Company has plugged back from 6648 feet to sidetrack stuck drill stem in J. J. Welder 1, northern Victoria County. R. H. Welder 1, in the same portion of the county, has shut down at 6181 feet. A drill stem test at 5641-60 feet developed 20 feet of oil and mud and 225 pounds pressure in 12 minutes.

TEST DISCOVERY

Mirando sand well north of Kohler a good well

Laredo.—Humble Oil & Refining Company's V. Kohler 52-A, which opened Mirando sand production just northeast of the Kohler Field in Duval County, flowed 13.65 barrels of 21.6 gravity oil per hour through ½-inch choke on official test. It showed pressures of 105 pounds on tubing and 320 pounds on casing.

This test, located in the northeast portion of Section 164, topped sand at 2613 feet, which continued to its total depth at 2642 feet. Casing was set to bottom and perforated in the lower section.

This discovery leads the way to further development of Mirando sand possibilities along this trend. It is several miles south of the Peters field and about the same distance east of the Lopez Field, both producing in the Mirando sand.

Close in acreage is held by the Humble concern, The California Company, United Production Corporation, Rio Bravo Drilling Company and George Coates, Pure Oil Company and Sun Oil Company.

Slightly more than a mile to the east, Rio Bravo Drilling Company and George Coates completed W. R. Peters 1-C, northeast corner Section 398, to extend Cole Sand production of the Rancho Solo field 1¼ miles northwest. The well is jetting about 75 barrels of oil, slightly cut, from sand at 1795-1805 feet. These operators have two oil and gas wells in the same horizon field, while The California Company has one gas producer in the Government Wells sand.

Efforts to widen production in the Government wells group of fields to the northeast failed in several instances.

Benedum and Trees have abondoned Clara Driscoll Sevier 1, Palo Blanquite Grant, 2 miles northeast of Realitos, after drilling to 7105 feet.

A deep test was abandoned and another was drilling at an interesting level late in the week in Jim Hogg County. Locke Purnell and Gifford Oil Company's C. O. Gallagher 10B, Block

190, Pippin subdivision, 4½ miles southeast of Randado, was dry at 3735 feet. Pan Ultimo Oil Company's Kohler 1, 3 miles northwest of Hebbronville, was below 3550 feet.

Humble Oil & Refining Company's H. C. Edrington 1, Section 57, six miles northeast of Seven Sister field, and in McMullen County, tested 500 feet of salt water at 2254-64 feet, and is going ahead.

PETTUS WILDCAT TESTS

Beeville.—Drill stem test was being run in one wildcat, while another was coring for sand in the Pettus district late last week. One is attempting to establish oil production on the flank of an already discovered gas field, the other being in entirely unproven territory.

W. C. McBride, Inc.'s Theo Plummer 1, east of the discovery gasser of the Plummer field, Bee County, was running a drill stem test at 3034 feet after getting an oil and gas show in the Pettus sand.

On a five-minute drill stem test at 3029-34 feet the well developed 450 pounds dry gas pressure, and it was coring ahead in search of saturation.

In Goliad County, two miles south of the Weser Field, Sun Oil Company's Lena Fromme is coring ahead from 4820 feet. The well expects to pick up a Yegua sand just below this depth. It has had several sands carrying gas and slight shows of oil.

The week brought a number of disappointments. Al Buchanan and Blanco Oil Company's P. Perez 1, on the southeast flank of the West Tuleta Field, Bee County, drilled to 3294 feet, but failed to find production in the 3100-foot sand. Devonian Oil Company's B. Manning 2, second Pettus sand test, five miles southwest of Mineral, also Bee County, topped the Pettus at 3533 feet, but was quit at 3593 feet. Humble Oil & Refining Company further defined the Voss Field with the abandonment of W. A. Voss 3, S. May survey, which showed salt water in the Pettus sand at 3998-4004 feet.

San Antonio.—A new producing district which may lead to the development of an entirely new type of field in South Texas appeared possible late in the week with Mid-Continent Petroleum Corporation and Oklahoma Company of Texas running a drill-stem test of saturated sand at 2979-89 feet in E. T. Laubscher 1, northwestern Webb County.

The well is in the Indio or Wilcox at this zone, neither of which has produced heretofore in South Texas.

Five drill stem tests had failed in this horizon due to the failure of a seat. A sixth was being attempted November 20. The well is on a large structure estimated to be about 35 miles long, northwest and southeast. Should it develop production it will open a wide territory to exploration.

GEOLOGISTS DINED

Houston, Texas.—The Independent Exploration Company gave a complimentary dinner November 20 at the Rice Hotel, Houston, for the Society of Petroleum Geophysicists and the Houston Geological Society.

KEY WELLS FAIL

Balcones Fault zone scene of failures

San Antonio.—Austin chalk development in South Texas Balcones Fault zone received a setback last week as a number of key wells failed to develop production.

W. J. Dobbs et al's Gus Jahns 1, ½ mile northeast of the South Darst Creek field, Guadalupe County, topped chalk at 2361 feet, but found no porosity to 2387 feet and has been shut down. F. P. Hynes has abandoned H. A. Linne 1, 12 miles southwest of Seguin, at 1840 feet. Culver and Kreiter's William Vorpahl 1, nine miles northeast of Lavernia, has been abandoned after plug back job to 1910-34 feet in the basal Taylor and failure to develop production. Rig has been skidded 800 feet west for a second well.

One wildcat in this county was testing in the chalk. Detroit-Texas Development Company's N. J. Carter 1, two miles northeast of Sullivan, is in Buda at 2356 feet with casing set at 2065 feet. It is attempting to complete.

Joe Mills' Eskew 1, near the Hilbig field, Bastrop County, failed to encounter Serpentine and is drilling below 2905 feet in Austin chalk. In the same county, 10 miles west of Bastrop, L. F. Ross et al's Caldwell 1, is shut down at 2438 feet after encountering a crevice at 2435 feet in the Georgetown. It is to test, although there was no show when the crevice was encountered.

SOUTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BASTROP COUNTY—		
American Pet. Explor. Co., Martha Freytag 1-A, 1950 ft swl, 3880 ft sel of P. Conley sur (50 ft e no. 1)	*	410
BEE COUNTY—		
Al Buchanan & Blanco Oil Co., P. Perez 4-A, sub J. M. Uranga gr (W. Tuleta)	*	3294
Devonian Oil Co., B. Manning 2, 2310 ft swl, 1650 nwl of J. Poitevent sur No. 1, 1600 ft nw No. 1, 5 mi sw Mineral, abst 263	*	3593
Humble O&R Co., M. M. McKinney 9, 2705.3-ac, 4000 ft sel, 3990 ft nwl L. C. Randolph May sur (Voss)	*	4004
BEXAR COUNTY—		
Carter & Ingersoll, Louis Mann 1, 180 ft sl and 200 ft wl of 83.25-ac tr, Stephen Jett sur No. 53, 3 mi s of Von Ormy	*	1357
State Dr. & Prod. Co., L. A. Jones 1, sur 9 (Adkins)	*	520
Woodward & Hardie, R. W. Devilbiss 1, 4850 ft sl, 300 ft el of John W. Devilbiss sur, 1 mi w Thelma	*	2284
BURLESON COUNTY—		
M-R Exploration Co., Inc., J. M. Fountain 2, 1700 ft sel, 3325 ft nel of 963-ac tr, in blk A-47 of W. Raleigh sur, 12 mi ne Caldwell	*	6504
CALDWELL COUNTY—		
Lincoln Pet. Corp. T. Harry Brown 2, Dillard Cooper sur, (Branyon)	20	2182
Smoots & Vaughey, M. O. Flowers 1, Dillard Cooper sur (Branyon)	130	2188
H. B. Starkey et al, Francis-Brown-Cochran, 450 ft swl and sel of 291-ac tr in W. F. Young sur	*	1792
Texas Dev. Co., Rosanky 1-A, 50 ft w No. 1, 430 ft swl, 700 ft sel of 964-ac tr, J. S. Montgomery sur	*	140
CALHOUN COUNTY—		
Continental Oil Co., Vandenberg (Austin) 1, 1320 ft n of sl, 660 ft w of el, n sec 12, blk "H", Pedro Gardia sur (1 mi n of other heaving sh wells)	*	8825
Humble & Plymouth, E. H. Welder 3, J. M. Rice sur (Heyser)	144	5474
Humble & Plymouth, P. H. Welder A-5, J. M. Rios sur (Heyser)	216	5496
Matagorda Oil Corp., J. Brundrett 1, 330 ft nel and nwl of tr 8 in Wm. Little sur, ext sw cor of county on Matagorda Island, in lot 294 of Brundrett sur	*	1735
Mills Bennett Prod. Co., Ira G. Yates 3, 330 ft nl and wl of sec 317, 4 mi se Lobbe field, 640-ac J. Poitevant sur	*	3712
H. H. Coffield et al, N. L. & L. Co. 1, 1335 ft nl, 1700 ft el sec 102	*	2168
Cole Pet. Co., S. Benavides 1-B, blk 483, Hale sub, Arispe gr (Cole)	*	2960
Conservative Oil Co., Duval-Sentz 2, blk 12, sec 51 (Colmena)	*	1544
Cox & Hamon, W. R. Peters 21, sec 322 (Lopez)	480	2133
Humble Oil & Ref. Co., A. H. Badgley 8, sec 307 (Seven Sisters)	280	2521
M. C. Hubberd 48-B, sec 72 (Loma Novia)	1000	2763
V. Kohler 52-A, 990 ft nl and el sec 164 (Kohler)	650	2642
Magnolia Pet. Co., Servando Benavides 15, blk 140, O'Hern & Seacord sub, Mesquite gr (Cole)	365	2860
Duval County Ranch 2, sec 97 (Piedra Lumbre)	30	1951
C. W. Hahl 48, sec 67 (Loma Novia)	490	2730
M. G. Peal 24, sec 383 (Lopez)	150	2180
Mortimer & Springer, J. B. Peal 10-Bm sec 796 (Lopez)	495	2151
Reliance Oil & Royalty Co., C. O. Drymmond 17 sec 308 (Seven Sisters)	1300	2488
Rio Bravo Dr. Co., W. R. Peters 1-C, 330 ft nl and el sec 398, 1¼ mi ne Rancho Solo	75	1805
Rogers & Rogers, E. J. Rogers 1, 3199 ft swl, 250 ft nwl sh 2, El Mesquite gr (Mesquite)	*	3300
The Texas Co., A. H. Badgley 3, sec 307, (Seven Sisters)	700	2527
Westheimer & Daube, Z. Campos 23, sec 224 (Seven Sisters)	750	2729
GUADALUPE COUNTY—		
Paul Armstrong, M. Tiller 1, 150 ft nwl and swl 10-ac tr, J. G. King sur	*	1720
Chas. Culver et al, Wm. Vorpahl 1, 150 ft sl, 1600 ft el 210-ac tr, G. W. Edwards sur No. 56	*	2525
F. W. Hynes et al, H. A. Linne 1, 415 ft nwl, 250 ft swl 224-ac tr, A. Reese sur	*	1840
JIM WELLS COUNTY—		
La Jita Corp., W. E. Pope 2, sec 20, King Ranch sub (Bentonville)	*	5528
LIVE OAK COUNTY—		
Rountree & Posey, Turner & Toland 1, 1000 ft nel, 1550 ft sw of Atascosa River, S. Hays sur	*	970
MAVERICK COUNTY—		
Thornton & Underwood, Thompson Heirs, 2000 ft swl, 750 ft sel UCSL sur No. 2	*	40
McMULLEN COUNTY—		
Joe Coursey, H. L. Lark 2, blk 101, Lark sub, E. W. B. Scrugham sur (Callihan)	66	1040
Loma Oil Co., L. Jacob Corp. 47-A, Jacob sur No. 8, (Jacob)	15	945
Stewart Oil & Gas Co., L. Jacob Corp. 5, John Fadden sur (Jacob)	25	941
NUECES COUNTY—		
Baltic Dr. Co., D. W. Grant 1, lot 54, Country Club Place (Saxet Heights)	180	4087
R. B. Bryant, Martha Scoggins 4, sec 315-316 (Saxet)	960	4570
Conroe Dr. Co., F. E. Bliss 8, sec 408 (Saxet)	875	5829
Costa Oil Co., N. V. Henderson 2, lot 11, sec 48, Flour Bluff & Encinal Gardens (Flour Bluff)	775	6657
Hiawatha Oil Co., F. J. Smith 2-B, blk 35, H. B. Shepperd Farm lots (Saxet)	560	5849
Houston Oil Co., Fee 2-A, sec 582 perf cas 6284-94 ft (Saxet)	¶35	6324
E. McGregor et al, 8, sur 582 (Saxet)	1320	5826
Pan American Prod. Corp., J. Sagarin 2-A, CEPI&M sur (Saxet)	750	5825
J. Sagarin 2-B, CEPI&M sur (Saxet)	750	5827
Renwar & Maryland Corp., Guaranty Title &Trust Co. 5, l-t 5, blk 2, Villa Gardens (Saxet Heights)	*	4126
Richardson Pet. Co., Cain & Sechrist 3, blk 23, Shepperd Farm lots (Saxet)	770	4419

*Failures; †Junked; ¶Million cu. ft. gas.

Saxet Prod. Co., H. H. Edwards et al 1, Evans Tract (Saxet Heights)	400	4080
Southern Minerals Corp., Mrs. M. B. Mastin 4, sec 416 (Saxet) ...	750	5836
A. J. Till 1, Page Lands sur (Saxet), pb and perf 4862-69....	450	605
Taylor Pet. Corp., J. B. Dunn et al 3, Villareal sur (Saxet Heights)..	300	4065
Texon Drilling Co., Carter, Ocker & Till 3, J. R. Ward sur No. 316 (Saxet)	775	4453
Anton Kocurek 5, J. R. Ward sur No. 316 (Saxet)	500	4465
G. H. McElroy 4, Gallagher sur (Saxet)	775	4444
Clara Driscoll Sevier 1, Palo Alto gr (S. Agua Dulce) .....(crater)		6832
L. M. Vance 4, T. Gallagher sur (Saxet) perf 4425-45	750	4600
W. A. R. Oil Co.'s C. J. Hoelscher 1, blk 22, Russell Farm Lots (Saxet)	150	4641
Sam Wilson, Jr., A. C. McCaughan 1, blk 11, Oak Park Addn (Saxet Heights)	550	4082
Wynne Dr. Co. et al, Rand Morgan 2-B, sec 315 (Saxet)	950	4456
REFUGIO COUNTY—		
Hewitt & Dougherty, M. F. Labbert 33, blk 34, Swisher sur No. 6 (Tomoconnor)	1050	5912
Quintana Pet. Corp., Clement Heard 2, Ximines sur (Tomoconnor) perf 5836-52 ft.	1250	5930
Tom O'Connor 7-C, G. W. Main sur (Tomoconnor) perf 5834-46..	1325	5971
United Prod. Corp., W. L. Rea 4, Refugio Town Tracts (Refugio), pb and perf 3455-63 ft.....	¶10	6505
SAN PATRICIO COUNTY—		
Plymouth Oil Co., E. H. Welder 61-C, sec 49 (Plymouth)	750	5614
Stanolind Oil & Gas Co.'s Corpus Christi Bank 1, Fessenden sur (Plymouth)	600	5895
STARR COUNTY—		
Sam Adams et al, Mrs. D. N. Garza, 1400 ft. s of State Highway, 150 ft. e of el of Military reservation, Sh 20-A, Por 80.....	*	452
J. H. Brower, E. G. Saenz 1, 330 ft. nel and nwl sec 363.....	*	150
Skelly Oil Co., F. B. Guerra 1, tr 251, por 38 (Samfordyce).....	250	2816
TRAVIS COUNTY—		
W. C. Bottenfield et al, P. C. Wells Est 1, 150 ft. nwl, 1558 ft. swl 40-ac tr, Kemper and Harper sur (Manda)	*	908
Doray & Leford, Pfluger 1, 950 ft. sl, 1800 ft. el of J. Davis sur....	*	821
VICTORIA COUNTY—		
Barnsdall & American Liberty, Pickering & Roos 8, SA & MG sur (Placedo)	425	4773
Commonwealth Oil & Gas Co., F. E. Parencia 2, blk 80, J. M. Brownson sur (Placedo)	550	4777
Harrison & Abercrombie, T. O. Sturdevant 5, J. M. Brownson sur (Placedo)	150	4767
H. B. Owenby Dr Co., T. P. Taylor 2, SA & MB Ry sur (Placedo)...	120	4775
Portilla Dr Co., P. H. Welder 6, Felipe Dimmitt sur (Hughes) depth approximate, closed well ..	*	5200
WEBB COUNTY—		
Foster Barnsley, C. H. Webster 1, ne se ne sec 684 (Carolina-Texas)	*	2275
Ivan Howard et al, Frost National Bank 2, 330 ft sl and el n½ sec 595	*	1921
Lundell Producing Co., Z. Lopez 1, 330 ft. nl and wl 200-ac tr, sec 731, 1 mi se Lopez field.....	*	2368
Mortimer & Springer, Paula Vela 10, sh 8-c, sec 114 (Lopez).....	575	2224
H. E. Nessly, A. M. Bruni Heirs 1, 330 ft. nl & el 80-ac lease, sec 450	*	3528
Porter & Blanchard, S. Benavides 6, blk 383, Hale sub Arispe gr (Cole)	625	2914
Smith & Hamill, S. Benavides 12, blk 314, M. E. Hale sub, Arispe gr (Cole)	550	2915
S. Benavides 30, blk 454, Hale sub, Arispe gr (Cole)	325	2936
ZAPATA COUNTY—		
Gilcrease Oil Co., A. P. Haynes 14-B, blk 4, Haynes sub, Comitas gr (Comitas)	12	989
Antonio Trevino 1, 330 ft. nel and nwl, blk 5, sec 3, Bode sub, por 2 and 3	*	3010
C. I. Jennnings, Martinez 1, sec 434 (Charco Redondo)	1	175
United Prod Corp., A. P. Haynes 2, blk 13, Haynes sub, Comitas gr (Comitas)	*	1090
A. P. Haynes 3, blk 13, Haynes sub, Comitas gr (Comitas).....	*	1162

Seabreeze Proven

SUN'S WILDCAT YIELDS GAS AND DISTILLATE FROM FRIO

GULF COAST

WEEKLY STAFF REPORT

Houston.—Seabreeze prospect, Chambers County, was proven productive for gas and distillate November 18 when Sun Oil Company's Acom 1, T. & N. O. Survey, Section 128 was completed making gas and distillate at 8190 feet in Frio formation. It came in flowing washwater, gas and distillate into the burning pits through a ⅛-inch choke with a tubing pressure of 2750 pounds and a casing pressure of 2850 pounds. It was later estimated that the well was making 1,000,000 cubic feet of gas and two barrels of fluid, 10 percent washwater, per hour. November 19, the pressure had increased to 3100 pounds on the tubing and 3200 pounds on the casing.

Prior to completion, Acom 1 was drilled to 8335 feet in broken sand and shale showing gas with an odor of oil. Top of the broken formation was logged at 8111 feet. A string of 9⅝-inch casing was cemented at 8100 feet and cement was drilled to 8190 feet.

The same company completed its second well in Turtle Bay field, Chambers County, last week and extended the field approximately 1000 feet east. Chambers 2, M. A. Carroll Survey, came in flowing 552 barrels of pipe line oil daily. Later the well was placed on a ¼-inch choke and showed a tubing pressure of 1000 pounds and a casing pressure of 800 pounds. The company has made location for Chambers 3, 1452 feet north of the southwest corner of a 521-acre tract and 1813 feet east at right angles to the west line of tract.

Continental Oil Company is going to attempt its luck on mastering heaving shale at Sheppards Mott. Hawkins 1 will be drilled 3000 feet from the southwest line and 3500 feet from the southeast line of the D. McCarthy Survey, Matagorda County.

Pickett Ridge Extended 8000 Feet

Approximately 8000 feet west of production at Pickett Ridge field, Wharton County, H. C. Cockburn's Kaubbla 1, was completed at 4578 in Frio formation for 40 to 50 barrels of pipe line oil per day through a ⅛-inch choke. Tubing pressure was 500 pounds; casing pressure 300 pounds. The casing was perforated with 12 shots from 4575 to 4578 feet. After washing the well for two hours it came in flowing oil and washwater. No salt water was in evidence when the test had cleaned itself. Pressure on Kaubbla 1 increased to 1425 pounds on the tubing and 1900 pounds on the casing at the end of the week.

Some are of the opinion that Cockburn's test opens a new producing area in Wharton County. However, it is the general opinion that the well is an extension of Pickett Ridge and proves up considerable acreage.

Pickett Ridge field was extended 933 feet southwest when The Texas Company finaled Nilson 2, I. & G. N. Survey, Section 37, flowing 10 barrels per hour through a ¼-inch choke from Frio sands at 4711 feet. Casing pressure was 520 pounds; tubing pressure 510 pounds.

Felmont Oil Corporation's General Mitchell 1, Spanish Camp area, D. Wade Survey, Wharton County, was coring in salt water sand at the end of the week at 7842 feet. Top of the water sand was logged at 7723 feet.

In the Magnet area of Wharton County, P. B. Watson's Sweet 1, east of Texas Crusaders Oil Company's Fee 1, Smith & McKenzie Survey, blew out again last week while the crew was reaming at 2800 feet. The operators had just finished cleaning out the hole to 5400 feet from a recent blowout when the well escaped again. The crew closed the well down after it had bridged.

At Garwood in Colorado County, Sterling Oil & Refining Company made a test on South 1, I. & G. N. Survey, Section 41. Casing was perforated with 12 holes from 6033 to 6037 feet and showed salt water.

Hastings Extended

Hastings field, Brazoria County, was extended one location northwest when Stanolind Oil & Gas Company completed McKibbon 1, H. & T. B. Survey, Section 29, in Marginulina-Frio sands at 6080 feet flowing at the rate of 630 barrels of pipe line oil daily through a ¼-inch choke with tubing and casing pressure of 950 pounds. The first broken sand was encountered at 5390 feet.

On the northeast side of Hastings, Humble Oil & Refining Company's Brown 6, W. H. Snyder Survey, was flowing into burning pits at 6020 feet. The test is being completed through a ¼-inch choke. Prior to completion it was drilled and cored to 6125 feet and then plugged back to 6020 feet. A drill stem test made from 6001 to 6004 feet showed 12 thribbles of oil with a flowing pressure of 150 pounds. Shut in pressure was 200 pounds.

Shell Petroleum Corporation announced location for a test in the newly discovered Lochridge field, Brazoria County. Ramsey Prison Farms 1 is 466 feet each way out of the most south-

erly north corner of an 857-acre tract and approximately 2000 feet east of Gulf Oil Corporation's Gibson 1, J. W. Hall Survey, Abstract 68, Section 11.

Salt Water at Fairbanks

South of production at Fairbanks field, Harris County, Amerada Petroleum Corporation and Stanolind Oil & Gas Company's L. Dopsaluf 1-A, A. Fry Survey, made a 15-minute drill stem test through two ¼-inch chokes of Cockfield sands at 6831 to 6845 feet and tested 1200 feet of salt water. The crew will plug back and test sands showing oil and gas from 6805 to 6828 feet. Seven-inch casing was cemented at 6845 feet.

About a mile north of production at Cotton Lake field, Glenn H. McCarthy abandoned Kirby Petroleum Company 1, Chambers County School Land Survey, at 6543 feet in Frio formation after coring salt water sands. The test is about 100 feet lower than wells at Cotton Lake and proves that Cotton Lake is not connected with Barbers Hill field. The operators will skid the derrick to location for Kilgore 6 at Cotton Lake. McCarthy's Kilgore 5 was drilling cement plugs at the close of the week for a production test. The hole is bottomed at 6298 feet in six feet of oil sand. A gas show was encountered at 6237 feet. A string of 5½-inch casing was cemented at bottom.

On the northwest side of Anahuac field, Chambers County, Sun Oil Company completed White 23, J. McGahey Survey, flowing 115 barrels per day through a ¼-inch choke with a tubing pressure of 175 pounds and a casing pressure of 200 pounds. The oil is from Frio sands at 7125 feet.

North of production at Anahuac, Humble Oil & Refining Company's White 15, J. McGahey Survey, was flowing into burning pits at the end of the week. Casing was perforated with 3 shots from 7015 to 7016 feet. The well is producing from Marginulina sands.

Clay Creek Shows in Wilcox

Sun Oil Company's Lauter 1, southeast flank of Clay Creek field, Washington County, was making another drill stem test at 7469 feet in Wilcox formation at the close of the week. A drill stem test at 7468 feet showed 1700 feet of 45 gravity oil and 650 feet of mud with no salt water. It was decided to core Lauter 1 one-foot deeper and make another test. The well has been averaging about 25 barrels of oil daily since swabbing was commenced.

Stapper Petroleum Corporation has made location and spudded in on a wildcat in Washington County. W. H. Hoxie 1, 125 feet east of W. D. Hoxie's dry hole, which was abandoned some time ago in the S. Sample Survey. It was drilling in shale at 795 feet at the end of the week.

Nine miles north of Bellville in Austin County, R. L. Hopkins and J. I. McGregor et al made location for J. W. Reineche 1, 440 feet from the north line and 330 feet from the west line of a 15-acre tract, or 2700 feet from the east line and 300 feet from the south line of the J. Stephenson Survey.

Southeast of Spurger field, Tyler County, Republic Production and Houston Oil Company's Hurd Fee 1, Norman Hurd Survey, was tested at 4992 feet and showed salt water. An eight-minute drill stem test from 4839 to 4992 feet showed 11 stands of salt water through ¼-inch choke. Sand showing oil was cored from 4667 to 4692 feet. At the end of the week the test was drilling in shale at 5380 feet.

J. G. Mayo et al made location for Dunnam 1 on Rumayor prospect in Liberty County. It is 330 feet southwest of the river and 330 feet northwest of the most easterly southeast line of 409-acre tract, or approximately 4250 feet west along the south line of Survey from the river and 2775 feet north at right angles.

On the north edge of Orange field, Orange County, J. R. Turnbull's Lutcher Moore 1 was tested from 6365 to 6371 feet after perforating casing with 9 shots. The test showed salt water. The hole will be plugged back and sands from 5590 to 5600 feet will be tested.

Spindle Top Test Blows Out

Stanolind Oil & Gas Company's Gladys City 1, Spindle Top field, Jefferson County, was being worked over the past week and blew out at 3000 feet making a large amount of oil. Special precautions are being taken to prevent fire as the wells are closely spaced in the area.

Another producer was completed on the north side of Amelia field, Jefferson County, by Glenn H. McCarthy. Longe 1-A, H. Williams Survey, on a potential test made 526 barrels daily through a ¼-inch choke with a tubing pressure of 500 pounds and a casing pressure of 1200 pounds. The well was making eight percent salt water. The hole is bottomed at 6106 feet. McCarthy made location for Longe 1-B after completing Longe 1-A. It is 580 feet north of the south line and 150 feet east of the west line of the lease in H. Williams Survey.

Approximately one-half mile southwest of McCarthy's operations at Amelia, The Texas Company was drilling in shale at 8149 feet in search of a new producing horizon. A gas sand was cored from 8041 to 8044 feet which threatened to blow out.

Sun Oil Company is skidding rig from Long-Mauboules 1, J. W. Blair Survey, to location for Paggi 3 at Nome in Jefferson County. Paggi 3 is 467 feet from the north and west lines of a 379.5 acre tract in the J. W. Kirby Survey. Long-Mauboules 1, made 40 barrels of fluid daily, 50 percent oil, through a ⅛-inch choke and is showing a tubing pressure of 125 pounds and a casing pressure of 1350 pounds. It was completed at 6060 feet and extended the producing area approximately a half mile west.

TEXAS GULF COAST
Completions

Company, Well and Location	Init. Prod. Bbls	Depth
NOME—		
Glenn H. McCarthy, Longe 2-B	526	6106
ANAHUAC—		
Humble, Shaver 3	312	7125
Sun White 23	115	7125
ARIOLA—		
Republic Prod. Co., Fee 14	179	3285
BARBERS HILL—		
Stanolind, Chambers 27 (wo)	25	4503
Chambers 30 (wo)	12	3983
BIG CREEK—		
H. L. Patton, Bryan 1	48	1739
BLUE RIDGE—		
Mills Bennett Prod. Co., Lutcher 5	*	2445
CONROE—		
Strake Pet. Corp., Keystone Mills 16	541	5053
ESPERSON—		
General Crude, Esperson 31	*	5334
HASTINGS—		
Stanolind, McKibbon 1	630	6080
LOUISE—		
Pure, Macha 2	312	5148
MANVEL—		
Burton Dr. Co., Bankers Mortgage 1	175	4067
MYKAWA—		
F. Flannagan, Cowherd 1	75	4862
NOME—		
Sun, Long 2	40	6056
PICKETT RIDGE—		
Texas Crusaders Oil Co., Kaubbla 1	50	4578
Texas Co., Nilson 2	240	4711
SOUTH HOUSTON—		
Stanolind, Howard 2	400	4000
Mathews 2	384	4000
SOUTH LIBERTY—		
Ganor Oil Co., Harrison 7	10	992
THOMPSON—		
Sterling-Naylor, Booth Myers 2	40	5401
TOMBALL—		
Humble, C. Rudal 1	*	5573
Tomball Townsite 19, Unit 1	192	5573
TURTLE BAY—		
Sun, Chambers 2	552	6602
CHAMBERS COUNTY—		
Glenn H. McCarthy, Kirby Lumber Co. 1, n of Cotton Lake Chambers County School Land Survey	*	6543
WASHINGTON COUNTY—		
Carl Dyer, Thomas 1, n of Brenham field, H. Hensley sur.	*	2652

*Failures; †Junked; ¶Million cu. ft. gas.

CLINTON HEARING

Austin.—Twenty-acre spacing for wells in the new Clinton field, Harris County, was urged at a hearing before the Texas Railroad Commission last week.

Stanolind Oil & Gas Company has completed one well at 8100 feet, and reported that pressure of 4800 pounds had been recorded on the drill stem. Normal pressures at this depth on the Gulf Coast range from 3500 to 3700, according to petroleum engineers. In order to protect the property, these engineers recommended 90 feet of conductor pipe cemented to the surface and 2300 feet of surface casing in addition to the oil string.

Property owners in the area objected to wide spacing and asked that the commission delay promulgation of permanent spacing rules until these owners had an opportunity to investigate the matter further.

The hearing was recessed until November 27 to allow independents to present any evidence they may care to offer.

COMPLETE REFINERY

Corpus Christi.—Construction will be completed about December 1 on a new refinery for Davis Refinery, Inc., the plant being located just west of Corpus Christi. The project will have a capacity of 2,000 barrels per day and will include a cracking unit and lubricating plant. It will have facilities for the manufacture of lubricating oils, gasoline, gas-oils, kerosene and other refined products.

The plant will have a capacity of 2000 barrels per day, but will handle only 1000 barrels per day for the present. The Saxet Heights and Saxet fields will provide both high and low gravity crude for the plant.

The project is owned by J. B. Davis and associates of Dallas. They also are interested in the refining business in East Texas.

Area Is Active

IMPORTANT LOCATIONS STAKED IN LOUISIANA GULF COAST

Lake Charles.—Interest in Louisiana Gulf Coast last week centered around four new wildcat locations, new producing horizons in old established fields, extensions to proven territories, and slight showings of oil encountered in several wildcats.

Southeast of Lake Charles, Union Sulphur Company announced location for M. P. Irwin Estate 1, 2605 feet south and 801 feet west of NEc NW Section 10-10s-8w. The wildcat will be drilled between the South and Southeast Lake Charles prospects on a block taken from W. D. Warner. The company had previously worked the area with geophysical instruments.

On University Block prospect, East Baton Rouge Parish, Louisiana, Crusader Oil Company staked location for Louisiana State University 1, 1290 feet north of John A. Deering's north line and 2350 feet west of Yazoo & Mississippi Valley railroad in Section 67-7s-1e. It is in the same area where Superior Oil Producing Company drilled Duplantier Community 1 to 10,360 feet. The deep test encountered several showings of oil while drilling to and below 10,000 feet. The best showings were between 6290 and 8600 feet. When Superior Oil Producing Company perforated casing in Duplantier Community 1 from 6500 to 6505 feet it showed 33 gravity oil, but, due to salt water encroachment, the well was abandoned in October, 1935. Superior Oil Producing Company is the largest lease holder in the area.

Location at Lake Mongouloi

The Texas Company made a third location on Lake Mongouloi salt dome in St. Martin Parish. State Lake Mongouloi 3 is 31 feet east of the State Mongouloi 1, which established the prospect as a salt dome. The wildcat is in Section 14-10s-9e. The first test drilled in the area showed oil from 7281 to 7289 feet and then went into water sand. The hole was abandoned at 7548 feet in salt in January, 1936.

Coastal Minerals Development Company announced location for Purdy-Haas 1 in Avoyelles Parish. It is 500 feet north and 300 feet east of the southwest corner of Section 25-2n-3e. In this general area, Amerada Petroleum Corporation, Adams-Louisiana Corporation, Pete Wiggins, Harry Lawson, Hunter Oil Company, Gulf Oil Corporation, Southern Star Petroleum Company, Magnolia Petroleum Company, United Gas Company and Cal-Tex Oil Company have been active in leasing acreage.

Humble Oil & Refining Company was preparing to test a new producing horizon at 4357 feet in Darrow field last week in Community 13, Section 33-10s-2e. The casing was perforated from 4349 to 4355 feet with eight holes, and after setting screen and liner the well failed to flow. A drill stem test from 4349 to 4354 feet showed 32 stands of 26.6 gravity pipe line oil and two stands of oil and mud in 15 minutes through a ¼- and ⅜-inch choke. However, the well showed no pressures. At the close of the week the operators were running screen and liner after perforating casing with 10 holes from 4349 to 4357 feet. Community 13 was drilled to 5254 feet in salt after encountering the formation at 5178 feet. Sands showing oil were found from 4976 to 5014 feet, but after testing salt water the hole was plugged back to 2520 feet and redrilled to 4357 feet.

Starks Field Extended

J. R. Turnbull extended Starks field, Calcasieu Parish, when Lutcher Moore 1, Section 19-9s-12w, came in flowing pipe line oil at the rate of 20 barrels per hour through a ⅝-inch choke with a tubing pressure of 95 pounds and a casing pressure of 275 pounds from 4208 feet. A drill stem test made prior to completion of Lutcher Moore 1 from 4192 to 4204 feet showed 1170 feet of oil and a 50-pound pressure. Top of the oil sand was logged at 4192 feet and 6⅝-inch casing was cemented at 4181 feet.

On the east side of English Bayou field, Calcasieu Parish, Union Sulphur Company was waiting on cement to set in Kaufman 3, Section 13-9s-8w. The hole was cored and drilled to 7810 feet in water sand and then was plugged back to 7085 feet. The operators will test sands at 7066 to 7068 feet which had a good odor and a fair cut of oil.

On the north side of Gillis field, Calcasieu Parish, Union Sulphur Company was drilling cement plugs in Barbee 10, Section 1-9s-8w. While drilling to 6745 feet, sand showing oil was logged at 6742 feet. A broken sand and shale formation showing oil was cored from 6710 to 6712 feet and from 6716 to 6719 feet. Operators decided to set the 6⅝-inch casing at 6740 feet.

In Section 47-7s-1e, Acadia Parish, Superior Oil Producing Company made location for C. Savoy 1. It is in the Bayou Mallet area, where the operators have several oil and gas producers. Savoy 1 is 2262 feet south and 2500 feet west of the southwest corner of Section 37.

Two New Tepetate Wells

Two new producers were completed at Tepetate field, Acadia Parish, last week by Continental Oil Company. Homeseekers 7-A and A. Ardoin 1-A came in flowing pipe line oil from the regular producing horizon. A. Ardoin 1-A, Section 23-7s-2w, made 312 barrels of 35 gravity oil daily through a 3/16-inch choke with a tubing pressure of 1500 pounds and a casing pressure of 1000 pounds from the Lower Marginulina-Frio sands at 8313 feet. The bit penetrated the top of the oil sand at 8307 feet and the gas sand at 8296 feet. A string of 5¾-inch casing was set on bottom and slotted pipe was run. Homeseekers 7-A, Section 29-7s-2w, after plugging back from 8617 feet, was completed at 8329 feet. The test made 72 barrels of 63.8 gravity distillate daily through a 3/16-inch choke with a tubing pressure of 2700 pounds and a casing pressure of 2900 pounds. While drilling to 8617 feet the crew topped a gas sand at 8258 feet, had a gas show at 8390 to 8408 feet and at 8509 to 8516 feet. Seven-inch casing, set at 8396 feet, was perforated with 24 holes from 8306 to 8319 feet. Two and one half-inch tubing was hung at 7827 feet.

On the Johnson Bayou prospect in Cameron Parish, Magnolia Petroleum Company's State 1, Section 16-15s-14w, was shut down for water at 8861 feet. A gas sand was cored from 8759 to 8765 feet.

Magnolia Petroleum Company's R. La Bleau 1, Big Lake field, Section 13-12s-8w, Cameron Parish, was drilling in sand with a slight showing of oil at 7786 feet at the end of the week. The top of the sand was logged at 7778 feet.

Discovery Output Drops

Stanolind Oil & Gas Company's Calcasieu National Bank 1, discovery well for a new field in Jefferson Davis Parish in the South Jennings prospect, Section 15-10s-3w, was making only 28 barrels of 70 gravity distillate along with 2,000,000 cubic feet of gas daily through a 3/16-inch choke with a tubing pressure of 3200 pounds at the end of the week. The discovery well was completed after perforating casing with 29 holes from 8638 to 8648 feet.

When the well came in November 12, after cleaning itself for 12 minutes it started making dry gas through a ¼-inch choke and had a tubing pressure of 3100 pounds. The choke was changed to 3/16-inch in size, the tubing pressure rose to 3300 pounds and the test made an estimated 4,000,000 cubic feet of gas daily. On an 11-hour gauge November 13, the well made an estimated 3,000,000 cubic feet of gas daily along with 5 barrels of gasoline per hour through a 3/32-inch choke and the tubing pressure went down to 3200 pounds.

On South Roanoke prospect in Jefferson Davis Parish, Shell Petroleum Corporation was mixing mud to pump into Sturdevant 1, Section 25-10s-4w. At 9749 feet the well attempted to blow out and the drill stem parted while the crew was attempting to pull it. After the wildcat had been closed in, it showed a pressure of 800 pounds. Over 1800 barrels of drilling mud and 125 sacks of special weighted material have been pumped into the hole.

Continental Oil Company's Hebert 1,

SOUTH LOUISIANA
Completions

Company, Well and Location	Init. Prod. Bbls	Depth
CAILLOU ISLAND—		
Texas Co., Caillou Island 43	*	778
CHARENTON—		
Mike Hogg, Bayou Teche 1	*	8008
CHOCTAW—		
Standard Oil of Louisiana, Wilbert 1	*	2791
ENGLISH BAYOU—		
Fohs Oil Co., Castle 14	500	7050
JEANERETTE—		
Herton Oil Co., Barrilleaux 1	1032	6682
JENNINGS—		
Leonard & Wayne Oil Co., Clements 1 (wo)	40	2105
Port City Oil Co., Fee 16	12	2303
Reed Crude Oil Co., Clemments 3	40	1670
PORT BARRE—		
Pan American, Garland Hoskins 2	¶1½	3568
SORRENTO—		
Pan American, United Lands 6	*	4505
STARKS—		
J. R. Turnbull, Lutcher Moore 1	480	4208
TEPETAAE—		
Continental, A. Ardoin 1-A	312	8313
Homeseekers 7-A	72	8310
JEFFERSON DAVIS PARISH—		
Stanolind, Calcasieu National Bank 1, South Jennings prospect, sec 15-10s-3w	120	8648

*Failures; †Junked; ¶Million cu. ft. gas.

Section 20-12s-3e, Abbeville prospect, Vermilion Parish, was drilling ahead below 11,200 feet at the end of the week in a sidetracked hole. The operators will redrill the hole back to 11,732 feet and test sand which caused Hebert 1 to blow out some time ago.

Charenton's First Failure

The first failure was reported in the new Charenton field, St. Mary Parish, last week when Mike Hogg's Bayou Teche 1, Section 5-13s-9e, was dry at 8008 feet in Miocene formation. An electrical logging device showed nine ohms resistivity from 7200 to 7206 feet.

West of Charenton and at Jeanerette field, St. Mary Parish, Herton Oil Company completed Barrilleaux 1, Section 59-13s-8e, as the best producer in the field. The hole was drilled to 8500 feet and 5-inch casing was cemented at 7338 feet. After testing salt water at 7208 feet the hole was plugged back to 5500 feet, sidetracked and drilled to 6682 feet in oil sand. Top of the sand was logged at 6677 feet. The well made 387 barrels in nine hours through a 5/16-inch choke with a tubing pressure of 960 pounds.

Two new locations were made at Jeanerette. Herton Oil Company's Carter 3 is 412 feet north and 200 feet west of Carter 1 in Section 38-13s-9e. Phil-Top Oil Company made a location on a 7½-acre tract at a spot 1662 feet north and 2828 feet west of the northeast corner of Section 68-13s-8e.

Small Jefferson Lake Show

In the Jefferson Lake area, Iberia Parish, Jefferson Lake Oil Company was also reaming to set seven-inch casing at the end of the week to make a production test. A slight showing of oil was encountered at 6947 feet, and after running an electrical logging device the test showed five ohms resistivity from 6942 to 6947 feet. The operators attempted a drill stem test and lost part of the equipment in the hole, but this was fished out successfully.

Pan American Production Company's second well on top of the Port Barre dome, St. Landry Parish, resulted in a gas well. Garlan Hoskins 2, Section 4-6s-5e, made 1,500 000 cubic feet of gas daily through an 18/64-inch choke. Tubing pressure was 350 pounds; casing pressure, 250 pounds. The hole was drilled to 3604 feet in shale and water sand, plugged back to 3540 feet, and redrilled to 3568 feet.

NORTH LOUISIANA
Completions

Company, Well and Location	Init. Prod. Bbls	Depth
CADDO PARISH (Rodessa)—		
Bert Kouns, Wynn 1, 8-23n-15w	¶5-500	6082
United Gas Pub. Serv Co., Brewer 5, 15-23n-16w	1800	5990
CASS COUNTY, TEXAS, (Rodessa)—		
American Liberty Oil Co., John Wiley 1, J. Davenport sur	1500	6000
Gulf Oil Corp., Dawson 1, J. H. Rives sur	1200	6066
Ohio Oil Co., Willis 4, SFIW sur.	1500	5963
Willis 6, SFIW sur	1500	5990
Phillips Pet. Co., Stallcup 3, Robert Trammell sur	1000	6150
United Gas, Bewley 1, H. Holbert sur	1500	6000
SABINE PARISH (Converse)—		
M. C. Forseman, A. Patrick 2, 21-9n-13w	*	2055
UNION PARISH (Monroe)—		
Southern Carbon Co., Grayling 15, 4-21n-4e	¶4	2188

*Failures; †Junked; ¶Million cu. ft. gas.

Work Slowing Down

RODESSA STARTS LESS AS OUTPOSTS SHOW NEGATIVE

WEEKLY STAFF REPORT

Shreveport.—The western limits of one part of the Cass County, Texas, portion of the Rodessa field apparently were proven last week when H. L. Hunt, Incorporated's I. N. Shelton 1, located in southeast corner of a 202 acre tract, James Davenport Survey, swabbed salt water with only a little oil in 3 feet of Young sand at 6051 feet. Elevation is 261 feet. This test logged top of massive anhydrite at 5356 feet and logged the Dees formation from 6014 to 6038 feet. Top of the Young was 6048 feet.

The well is 2 miles south of American Liberty Oil Company's Gilbert Stephens 1, Jacob Carsner Survey, that was a failure. Bay Oil Company's George Parker et al 1, G. Crowder Survey, two miles northwest of production, a so-called "lateral" fault test, which swabbed as high as 4 barrels of oil per hour after casing was perforated with 20 shots at 6019 to 6026 feet in the Gloyd, perforated casing again last week in the same horizon from 6018 to 6028 feet.

Across the Louisiana line another 2-mile north outpost was setting final string of casing at 5995 feet, after reporting saturation also in the Gloyd formation. Both this and the Bay Oil Company test are supposed to be north of the so-called lateral fault. The Louisiana outpost test is J. Edward Jones' Maidee Sharpe 1, SW NW SE 4-23n-16w.

A ¾-mile northeast outpost well was also testing last week, this being Idessa Oil Company's (S. P. Borden and associates) Sumner 1, NW SW SW 10-23n-15w, with depth of 6250 feet. Seven-inch casing was cemented at 6110 feet and after plugs were drilled Wednesday operators Thursday were preparing to perforate casing and test. Nothing is known of formation markers on this test as it has been drilled "tight."

Deep Test

R. W. Norton's J. E. Payne 1, SE SE 27-23n-16w, a proposed 10,000-foot test, last week was drilling below 5060 feet. The same operator's Starke 1, NW SW 16-23n-16w, almost ½-mile northwest of production, set final string of casing; total depth is 5995 feet. Eastern Texas Production Company's Belote 1, H. Holbert Survey, 1-mile west outpost was drilling below 4235 feet and W. F. Lacey's Lewis 1, H. Holbert Survey, also an outside test, was drilling below 2900 feet.

Work Slows Down

Rodessa slowed down sharply last week in the amount of new activity, only 3 new locations being reported ,all in the northeast part of the field and all being necessary offsets. Two were made by Lion Oil Refining Company in Section 9-23n-15w on the John M. Wynn lease and the other was by Phillips Petroleum Company for McDonald 3, 17-23n-15w.

The Louisiana side has been slowing down for several weeks as operators awaited the issuance of another gas-oil ratio order, expected to be of a permanent nature. The lagging on the Texas side is probably due to the fact that a large number of new locations that took care of practically all necessary offsets have been made in recent weeks and there have been no extensions, requiring offsets.

Spudding of M. H. Overlees and associates' Lizzie Henderson 1, R. Bennington Survey, Marion County, 13 miles southwest of farthest Cass County production which last week was drilling below 969 feet, has revived some leasing and geophysical activity west of production. Magnolia Petroleum Company, Shell Petroleum Corporation and Stanolind Oil & Gas Company have parties working west of production. Phillips Petroleum Company has taken a small lease in the B. H. Hobson Survey and another in the G. Gerdis Survey. This same company also leased 200 acres in the F. H. Bivins tract of the William Edmonson Survey, the latter tract 3 miles southwest of production.

Near Harleton, Harrison County, Continental Oil Company has been leasing recently taking 775 acres in the G. G. Allen and nearby headrights and taking 460 acres in the E. Cassey and nearby surveys. Southeast of Hallsville, around the William Watson Survey, Empire Gas & Fuel Company has leased several hundred acres.

Deep Test for Sibley Gas Field

Standard Oil Company of Louisiana last week started moving in materials for a contemplated 8000-foot test in the Sibley gas field, Webster Parish, where there are at present three gas-distillate wells producing from what corresponds to the Gloyd formation at Rodessa at slightly below 5500 feet. The new test is Fudicker 1, c NW 2-17n-9w. It is one mile southwest of J. P. Evans' Crichton 1, section 35-18n-9w, discovery well of the field.

The company has approximately 11,000 acres in its block in this area.

Earl F. Fox of Shreveport last week

made location for L. B. Blankenship 1, NE SE NW 13-9n-12w, Sabine Parish, a 3300-foot test 4 miles southeast of the Pleasant Hill field that produces from the Washita at 3200 feet. Fox has a block of 4700 acres and may drill deeper than contract depth. Location is 2¼ miles west of Langford and associates' Stevens 1, Section 17-9n-11w, completed in 1931 at 3366 feet as a 40-barrel daily pumper and is still producing about 6 barrels of oil daily. Several other tests drilled in this area, 2 by the Frankie Foster Estate had good gas showings but were not commercial wells.

Chamberlain and associates have assembled a 3000-acre block centering around Section 29-11n-11w, DeSoto Parish and have made location for a test, Lanier 1 in that section. C. W. Cline has made location for Collingsworth Heirs 1, SE SE 14-10n-6w, Winn Parish, on a block in that parish and Natchitoches parish.

Standard Oil Company of Louisiana is filling in two blocks it has in Union County, one in township 20 north, range 2 east, and the other in township 23 north, ranges 1 and 2 west, both in Union County.

Preparatory to development, Glassell and Glassell of Shreveport are doing abstract work on their 12,000-acre block in township 20 north, range 3 west, Lincoln Parish, assembled several months ago for a deep test. Several companies and individuals are leasing around the edges of this block.

In Bienville Parish, Seaboard Oil Corporation has added approximately 1,000 to its large block centering around Section 25-14n-6w.

Howard Jones of Shreveport is planning a series of tests to the Cane River-Wilcox contract on a block he has in Tensas Parish, where he recently drilled a test to 800 feet and had a good gas show at base of the Cockfield.

Sligo Extension

The 4200-foot gas horizon (known locally as the Jeter sand) of the Sligo gas field, Bossier Parish, was extended ¾-mile northeast last week when Arkansas-Louisiana Gas Company completed McDade 1, NW SW NW 8-17n-11w, gauging 30,702,000 cubic feet of dry gas at 4294 feet. Seven-inch casing had been cemented at 4216 feet.

The company immediately started moving in materials for two additional tests for the same horizon at Davis 1 and Potter 1 in the same section.

The Jeter sand is the first of the Glen Rose below the anhydrite and has been producing in Sligo for several years. McDade 1 orginally was begun for a Petitt sand test but was too high up on the structure for that horizon.

9 LOUISIANA PERMITS

Shreveport.—Nine drilling permits were authorized last week by the minerals division, Louisiana Conservation Commission. Five were for North Louisiana, divided among the following parishes: Bienville, one; Caddo, one; Franklin, one; La Salle, one; and Morehouse, one. Four in South Louisiana were divided among the following parishes: Acadia, two; Jeff Davis, one; and St. Mary, one.

SHOW IN GLEN ROSE

Two Miller County tests correlate Rodessa

WEEKLY STAFF REPORT

El Dorado, Ark.—Two wildcat tests in Miller County, Arkansas, last week reported shows of oil at horizons in the Glen Rose that correlate to producing zones in the Rodessa field, and are setting casing.

After an extended sidetracking job, Joiner and associates (formerly Odell Hinson) are setting casing in Montana Realty Company 1, NW NW 13-17-28; total depth is 5603 feet but the showing of gas and oil stains at 5536 to 5554 in what is claimed as corresponding to the Dees at Rodessa will be tested. Elevation is 225 feet. This test logged top of the anhydrite at 4055 feet and also reported an oil show at 4632-64 feet.

C. V. Lenz's Dale 7, section 24-15-26, northeast of the discovery shallow well of the Garland City field in the same section, is having casing cemented after reportedly coring a sand showing oil at 4210 to 4216 feet. This test showed 9 thribbles of oil of 49.7 gravity along with mud in a 20-minute drill stem test before casing was hauled to location.

In Columbia County near the La Fayette County line in an area recently gone over with geophysical instruments, Standard Oil Company of Louisiana is completing a 5000-acre block centering around Section 9-16-22.

Abandon Two Deep Tests

Two 5,000-foot wildcat tests in South Arkansas were preparing to abandon last week. In Miller County Erwin & Leach were arranging to abandon Red River Farms 1, Section 2-17-26, at 5212 feet. In Columbia County, Burford & Company were abandoning Kendrick 1, NW SE 8-19-18, at 5419 feet in red shale after salt water showed in a drill-stem test at 5370-80 feet.

Root Petroleum Company announced location last week for a deep test in Hempstead County, Jones 1, NE SW NE 16-13-23. This is on a large block recently assembled after geophysical shooting. Benedum & Trees Oil Company announced location for Fincher 1, Section 10-14-20, offsetting Groves 1 in the same section that recently showed oil. The same company's Groves 2 in the same section had a show of oil in the Nacatosh at 1200 feet.

In the area around C. V. Lenz's Dale 7, section 24-15-26, Miller County, that showed oil at 4210-16 feet, J. K. Wadley has leased approximately 3000 acres. Lenz's test is said to have had its oil show in a horizon that showed water in Deep Rock Oil Company's test in Section 6-16-25, but Lenz's test, it is claimed is 116 feet higher than the Deep Rock test.

El Dorado, Ark.—One drilling permit was issued last week by the Arkansas Board of Conservation for B. F. Tomblin's Taylor 1, located 330 feet south and east NWc SW NW 27-19-15.

MISSISSIPPI

Jackson, Miss.—Fred E. Courson who last week abandoned Newman Lumber Company 1, NW NW 26-1n-9w, Perry County, South Mississippi, immediately started moving rig to a second location on the same block, Newman Lumber Company 2, located 2100 feet east and 825 feet north of SWC 2-2n-10w. The first test was abandoned at 3023 feet.

State of Mississippi's latest test on its 1320-acre block of Insane Asylum land in the Jackson gas field, last week had 13-inch casing cemented at 802 feet and later was drilling below 1410 feet in the Wilcox. E. R. Owen of Jackson is the contractor. This probably will be a test for oil.

FLORIDA

Miami.—Clem S. Clarke of Shreveport has taken a two-year geophysical option on 1,100,000 acres of land in Collier County, southwest Florida. Clarke sent a shooting crew into Florida last summer and after its departure he took the option on this block. Under provisions of the option Clarke can have a 10-year commercial lease on a 100,000-acre block on the proviso that he drills a 6,000-foot test and can get an additional 100 000 acres leased for each 2000-foot additional test drilled.

The All Floridoil Corporation of which William G. Blanchard is vice president is leasing approximately 200,000 acres in Suwance and La Fayette counties, and in Leon, Wakulla and Jefferson counties. He will have this acrage gone over with magnetometer. The leases are for 6 years with a proviso to start a test within a year.

Recently Geophysical Service, Incorporated, ran a line west from Miami to the Everglades and north of Labelle. This crew also did a little shooting in Lake and Polk counties.

L. Spraragen recently completed magnetometer work in parts of West Palm Beach, Hendry, Collier and Monroe counties for Internal Improvement Board of Florida.

Mobile.—E. G. Nicar, who recently who recently completed magnetometer work in southwest Alabama, is reported taking geophysical options on acreage in Mobile County.

MISSISSIPPI

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
HINDS COUNTY (JACKSON)—		
State of Mississippi, fee 5, 25-6n-1e	¶40	2493
PERRY COUNTY—		
Fred E. Courson, et al, Newman Lbr. Co. 1, 26-1n-9w	*	3023

*Failures; †Junked; ¶Million cu. ft. gas.

FLORIDA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
HILLSBOROUGH COUNTY—		
Southern Pet. Co., Mizell & Williams 2, 4-32s-21e	*	965

*Failures; †Junked; ¶Million cu. ft. gas.

Test Misses Beds

SEDIMENTARY STRATA ABSENT UNDER COLORADO

ROCKY MOUNTAIN FIELDS

WEEKLY STAFF REPORT

Casper, Wyo.—Sedimentary beds below the Pennsylvania series in eastern Colorado are absent over a much larger area than was formerly expected. Indian Territory Illuminating Company's Vorce 1, CNE NE 28-1s-49w, on the Hyde block, Washington County, passed directly out of the Cherokee beds of Pennsylvanian age into the schist. The well was abandoned as a dry hole at 7,003 feet in the schist topped at 6,939 feet. This was described as quartz-biotite schist cut by pegmatite and aplite dykes. Further exploration by drilling will be necessary to determine whether or not the range of granite subsurface mountains runs east or west or has a southwestern trend. Possibilities also exist for the discovery of oil in sedimentary beds around the highs or between the granite ridges.

Failure of Vorce 1 this week and of I. T. I. Co.'s Strangways 1, which was abandoned in granite at 5,595 feet last September, will not seriously slow drilling operations in the eastern Colorado area. Major companies have leased over 4,000,000 acres and have spent $20,000,000 in geophysical exploration work on the area. It will be thoroughly explored before being discarded as a producing possibility.

Results obtained from Gulf Oil Corporation's Risser-Union Pacific 1, CSW NE 1-17s-50w, which is now building derrick for a test of the eastern Colorado area in Kiowa and Cheyenne Counties, will do much toward determining the extent of drilling in the region. The well is located on the Galatea block, which lies across the boundaries of Kiowa and Cheyenne Counties.

Garland May Yield Oil

Possibility of developing another black oil pool in Garland field, Big Horn County, Wyoming, appeared likely this week as a well recovered oil saturated Embar cores. Embar formation heretofore has produced only gas at Garland. Presence of the saturation is believed directly traceable to the lowering of gas pressure in the field through the medium of the Stock Oil Company's gas well which has been running wild at the rate of 60,000,000 cubic feet of gas since January.

Operators have contended for some time that the gas cap at Garland was flanked by oil but until the recovery of saturation in the Stock Oil Company's Griffin 1, the theory lacked backing. Apparently the withdrawal of the gas pressure through the vent provided by the wild well has allowed the oil to rise. Previous production of oil in the field has been from depths averaging below 4000 feet in Madison lime. A good show of oil with gas was developed in the Kinney-Coastal Oil Company's Government 3, SW NW NE 24-56n-98w, last February. The well is apparently located near the edge of the gas-oil horizon in the Embar formation of the field.

On the south Garland fault block, Big Horn County, Wyoming, Peay Oil Company's Denio Mining & Milling Company Lease 1 is drilling at 3998 feet. The well is in NE NE 15-55n-97w.

Ohio Oil Company's Smith 2, W NW SE 35-55n-97w, Garland is coring good oil saturation in Madison lime at 4042 feet.

In Byron field, Big Horn County, northern Wyoming, Ohio Oil Company's Clarissa Willey 1, SEc NE NE NW 25-56n-97w, is drilling at 4270 feet in shale. Objective is the Embar-Tensleep black oil zone expected at about 5200 feet. The company's State 1, NEc 36-56n-97w, Byron, is waiting on cement to set around the 12½-inch surface casing at 408 feet.

Light Oil Field Looms

Possible opening of a new light oil field in northwestern Colorado, Moffat County, was advanced further with the near completion of the Mountain Fuel Supply's No. 1 Carl Allen, NE SW 32-12n-97w, Powder Wash gas structure. The test is waiting on cement to set around 8⅝-inch casing set at 5014 feet before making a production test. A head of 20 barrels of light oil was made in the well a week ago from Wasatch sand at 5012-30 feet.

The company's Adam Cooper 1, CNW SE 15-16n-104w, South Baxter Basin field, Sweetwater County, southwestern Wyoming, is drilling at 2865 feet in shale and its Georgia Kuykendall 1, NE NE SE 22-12n-100w, Hiawatha Dome, Moffat County, Colorado is cleaning out and testing at 2766-74 feet. State 1, NW NE 17-3n-24e, Clay Basin gas structure, Daggett County, northeastern Utah, has plugged back to 5870 feet from 5982 feet and is preparing to complete in Dakota formation.

Several Lance Creek Wells Due

Several wells in the Lance Creek field, Niobrara County, eastern Wyoming, were near completion this week. Ohio Oil Company's Agnes Rohlff 4, CSW NE 32-36n-65w, has reached the Sundance sand and is cementing the seven-inch production string on top of the Basal Sundance at 3864 feet. The company's Carrie Putnam 6, CNW NW 4-35n-65w, is coring at 3835 feet after topping the first Sundance at 3820 feet.

Completion of Continental Oil Company's Schuricht 2-B, SE SW SE 6-35n-65w, Lance Creek, was delayed this week by loss of 4 joints of two-inch tubing after the operators had finished plugging the well back to 3890 feet from 4049 feet, where water was encountered. The company has run two-inch liner to bottom of its Emil Rohlff 1, CSL SE NW 32-36n-65w, on the northwest side of the Lance Creek pool, and boosted production from 24 barrels to 50 barrels daily. This is a north offset to the Richards & Comstock well of the Ohio Oil Company and checks about 81 feet lower than the Ohio well. In the southern sector of the Lance Creek field, Continental's Dielman 2-A, NW NE NE 7-35n-65w, is drilling at 3000 feet.

MOUNTAIN STATES

Completions

MONTANA

Company, Well and Location	Init. Prod. Bbls	Depth
BIG HORN COUNTY (Hardin Gas Field)—		
Lammers & Son, Berthold 1, se sw nw 6-1s-33e	¶⅛	750
Holly Development Co. 1, csw sw 12-1s-33e	¶	820
CARBON COUNTY (Blue Creek Structure)—		
Round Butte Oil Co., 2, cwl ne se 3-6s-23e	*	790
GLACIER COUNTY (Cut Bank Field)—		
Patterson, Cole 1, cne sw 2-32-6w	....	3235
PETROLEUM COUNTY (Cat Creek Field)—		
Homestake Oil Co., Government 25-A, cnw sw 10-15n-29e	12	1487
PHILLIPS COUNTY (Bowdoin Gas Field)—		
Montana-Dakota Utilities Co., Garrison 1, sw se se 6-31n-34e	¶¾	780
Buffington 1, cse sw 14-31-34e	¶2	795
Kyle 1, cne nw 15-31n-34e	¶¾	761
Town of Saco 2, s se se 7-31n-34e	¶¾	800
Robinson, Bruster 1, lot 1, 21-32n-34e	¶½	768
TOOLE COUNTY (Kevin-Sunburst Field)—		
Alexander Sorrel, Strange 1, nw nw sw 31-35-3w	8	1751
YELLOWSTONE COUNTY (Price Dome)—		
Tarrant, Metzger 1, csw nw 8-3s-25e	¶10	1168

WYOMING

Company, Well and Location	Init. Prod. Bbls	Depth
SUBLETTE COUNTY (Labarge Field)—		
Texas Co., Calif. Pet. Corp. 4-C 07674-A, ne nw 34-27n-113w	70	846
WASHAKIE COUNTY (Hidden Dome Field)—		
Yale Oil Corp., Government 1, se se se 25-48n-91w	135	1583
Nystrom & Smoot, State 3, ne ne ne 36-48n-91w	106	1600
Wyoming Oil & Refining Co., Government 4, nw ne nw 31-48n-90w	75	1558
WESTON COUNTY (Osage Field)—		
H. W. Wiltse, 11, ne ne nw 17-46n-63w	95	265
Bert Higgins, Fee 4, w nw sw 4-46n-63w	30	385
C. D. Stough, 4, w sw nw 4-46n-63w	*	314
Hawkeye Co., Government 4, w nw sw 18-46n-63w	*	1441
WESTON COUNTY (Willow Creek)—		
John Brorby, Lemke 1, se se ne 10-48n-65w	*	685

COLORADO

Company, Well and Location	Init. Prod. Bbls	Depth
ARCHULETA COUNTY—		
Hughes Estate, Lee 13, cnl nw 24-33n-2e	1400	1200
COSTILLO COUNTY—		
Lane, Midwest Land & Cattle Co., 1, ne ne ne 25-31s-74w	¶	500

*Failures; †Junked; ¶Million cu. ft. gas.

Bailing Discovery

HARBOR AREA TEST MAY BE CHANGED TO FLOWING WELL

WEEKLY STAFF REPORT

Los Angeles.—In the Los Angeles Harbor area of Wilmington, General Petroleum Corporation's Terminal 1 has been taken off the pump and the liner washed. Bailing and swabbing are under way, with the hole making a great deal of sand and mud. The well was completed November 1 pumping 195 barrels a day of 28 gravity oil and 100,000 cubic feet of gas, but cutting 30 percent fresh water and mud. It is expected that the well will clean up and develop into a flowing well. Depth is 6814 feet in schist, plugged to 5510 feet, with a 4¾-inch combination string landed at 5510 feet and cemented through perforations at 5310 feet.

Harbor Outpost Bridges

Gauthier Oil Company's Classification Yards 1, two miles northeast of Terminal 1, above, was bailed for a test of the 6⅝-inch water shut-off at 3592 feet. The hole was found to be bridged at about 2500 feet with shale, sand and cement, so was cleaned out and the test made with a tester. Depth is 3675 feet in oil sand. This is the farthest well to the northeast in this area and its completion probably will prove up a number of additional well locations.

In East Coyote field, 45 miles east of Los Angeles, West American Oil Company's West American 13, located at the southwest edge of the field, was cleaned out to the top of the plug at 3850 feet and recompleted, pumping 275 barrels a day of 19 gravity oil cutting 20 percent. Pumping tests of the lower zone (5208-5835 feet) were not satisfactory. Depth is 6432 feet, with 8⅝-inch water string cemented at 3565 feet.

Oil Conservation, Ltd.'s Jessup 1 is standing cemented with 8⅝-inch water string set at 2715 feet and cemented through perforations by the multiple stage method at 700 feet. Total depth is 2808 feet, bottomed in oil sand. The test is loacted in the extreme east end of East Coyote.

Armstrong-Babcock-Rowan's May 1, also at the east end of the field, was suspended at 3010 feet in coarse conglomerate with streaks of shale and gray sand. It recently has been acquired by Oil Conservation, Limited, and will be cored ahead.

Wildcat Swabbing

K. L. Lystle's McKenna 1, wildcat 14 miles south of Los Angeles in Section 33-3s-14w, is swabbing fluid entering the hole consisting mainly of fresh water, a good deal of oil and gas, and some salt water. This well was drilled to 4317 feet by Pioneer Holding Company, and 9⅝-inch casing was set at 4157 feet. Tests showed the zone immediately below the shoe to be wet. Shell Oil Company then acquired the hole and drilled and cored to the schist at 7235 feet. The basal conglomerate zone, 7155-7235 feet, was wet and the hole was plugged to 4308 feet. Bailing tests of the interval 4157-4308 feet developed only water with a scum of oil, and the well was abandoned. The present operator cleaned out to 4317 feet, landed a 6⅝-inch combination string at 4317 feet, including 37 feet perforated, and cemented through perforations at 4285 feet.

Superior Oil Company's Inglewood Extension 1, wildcat 10 miles southwest of Los Angeles in Section 25-2s-15w, is being cored at 8325 feet in shale. It is reported that this is the nodular shale, a marker zone roughly 200 feet thick which overlies the basal conglomerate zone. Top of the nodular shale was cored in Eastern Oil Company's Eastern 1, located 1¼ miles northwest, at 7268 feet.

Test Near Santa Maria Coring

E. H. Moore, Inc.'s Union Sugar A-1, wildcat in Section 25-10n-35w, is being cored ahead at 8005 feet in shale with streaks of sand. The top of the Monterey series (Miocene) was cored at 7695 feet. This well was originally drilled to 3035 feet and abandoned by the Shell Oil Company as one of a series of seven core holes drilled for geological information. Location is five miles northwest of Santa Maria, Santa Barbara County.

In the Ten Section oil field, 14 miles southwest of Bakersfield, Shell Oil Company's K.C.L. A-6, Section 29-30s-26e, has been choked back to a ⅛-inch choke and is flowing 454 barrels a day of 36 gravity oil, cutting 2.2 percent, and 357,000 cubic feet of gas. Tubing and casing pressures are 910 pounds and 2160 pounds, respectively. Depth is 8984 feet, plugged to 8385 feet, with 6⅝-inch casing cemented at 8315 feet.

Standard Oil Company's K.C. 10-1, located one mile north of the discovery well in Section 20-30s-26e, is being cored at 8340 feet in brown shale with streaks of sand. It is reported that no important showings have been found in this well.

Ohio Oil Company's K.C.L. E-1, Section 19-30s-26e, is being cored at 8383 feet in brown shale with streaks of gray sand. Location is about 1½ miles northwest of the discovery well, Shell Oil Company's K.C.L. 1.

Adam Area Active

In the Adam area, 2 miles southeast of Santa Maria, R. R. Bush Oil Company's California Lands 1, Section 30-10n-33w, was bottomed at 4225 feet in gray sand and the hole is being reamed to bottom. Top of the Monterey series was cored at 2840 feet.

A. N. Macrate's Rice 1, Section 23-10n-34w, Adam area, cored the top of the Monterey at 2335 feet, top of the Franciscan metamorphics at 2523 feet, and was bottomed at 2554 feet. Oil sand was cored 2412-2519 feet. The 8⅝-inch water string was cemented at 2340 feet, and 235 feet of 6⅝-inch liner, including 214 feet perforated, was landed at 2554 feet. Preparations are being made to swab for production.

Grapevine Test to Perforate

In the Grapevine area, 30 miles south of Bakersfield, Reserve Oil & Gas Company's Ritchie 33-1, Section 33-11n-19w, was redrilled to 5308 feet, plugged back to 5050 feet, and 347 feet of 6⅝-inch blank liner was cemented on the plug. This liner will be perforated opposite oil sand streaks. The well originally was drilled to 6030 feet and abandoned by Dr. J. J. Ritchie. The nine-inch casing was cemented at 4712 feet, but tests of oil showings were not satisfactory.

Reserve Oil & Gas Company's Tejon 33-2, one fourth mile northeast of 33-1, Section 33-11n-19w, is standing plugged to 4414 feet, and a test of the casing will be

CALIFORNIA Completions

Company, Well and Location	Init. Prod. Bbls	Depth
INGLEWOOD—		
Associated, Vickers 51	450	3250
LONG BEACH—		
Shell, Alamitos 43	95	4383
SANTA FE SPRINGS—		
Union, Bell 98	225	4045
KERN FRONT—		
McDonald & Dearin, Carrec 3	160	2010
MIDWAY-SUNSET—		
Union, Keene 3	500	2084
MOUNTAIN VIEW—		
Mohawk Pet. Co., Clendennen 8	85	6035
EL CAPITAN—		
Shell, Covarubias 1-19	470	1788
SHIELLS CANYON—		
Texas Co., Shiells 131	380	4213
KINGS COUNTY—		
Associated Avenal 1	*	....

*Failures; †Junked; ¶Million cu. ft. gas.

SURWEL CLINOGRAPH
also
H-K & SYFO Surveying Instruments
SPERRY-SUN WELL SURVEYING CO.
PHILADELPHIA - TULSA - HOUSTON - LONG BEACH

made. Depth is 4505 feet. Both sand and water have given a great deal of trouble and a conclusive production test has so far been impossible. The 8⅝-inch water string is cemented at 4444 feet.

Ohio Oil Company's Title Insurance & Trust D-1, Section 21-11n-19w, is being cored at 4945 feet in sandy shale, stained with dead oil. No showings of importance have been found in this well, which is located about two miles north and valley-ward from Tejon 33-2, above.

OPPOSE DIVERSION
Officials in New England discuss tax fund usage

Burlington, Vt.—Opposition to diversion of gasoline tax funds to uses other than highway financing has been voiced by members of the New England State Tax Officials Association meeting at Burlington, Vt. Among those who spoke against the practice were: Michael A. Connor, deputy in charge of fuel tax, Rhode Island; Henry F. Long, commissioner of corporations and taxation, Massachusetts; John H. Griffin, commissioner of motor vehicles, New Hampshire; L. B. Tims, chief clerk, motor vehicle department, Vermont.

Public sentiment in New England against diversion of automotive funds is growing, particularly in Massachusetts and Rhode Island, the states having the greatest diversion of automotive funds. Of $23,654,000 collected by Massachusetts last year in gasoline taxes and registration fees, $9,527,688, or 40.3 percent, was diverted to purposes other than highway financing. In Rhode Island, which has the lowest gasoline tax rate in New England, $4,519,000 was collected in automotive taxes last year, but $671,045, or 14.9 percent, was used for non-highway purposes.

The State of Maine at the recent election adopted a referendum measure prohibiting the diversion of automotive tax funds to general administration purposes. Efforts are now being made in Massachusetts to have a similar measure against diversion submitted to a popular vote.

MICHIGAN
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
GLADWIN COUNTY—		
D. F. Jones, Doane 1, sw nw nw sec 33-18n-1e	*	3700
IOSCO COUNTY—		
J. H. Barton, Goupil 1, nw nw ne sec 9-21n-5e	*	3390
ISABELLA COUNTY—		
Hyatt & Norton, State 1, sw nw sw sec 34-15n-3w	25	3600
Fortney Oil Co., Fetters 1, sw nw nw sec 23-16n-4w	*	3900
Snyder Drilling Co., Fritz 1, sw sw sec 13-14n-6w	*	3782
McClanahan Oil Co., Cook 1, nw nw ne sec 15-16n-5w	*	4149
MECOSTA COUNTY—		
Columbia O&G Co., Stebbins 3, c se se 25-13n-8w	¶¾	1330
Gordon Oil Co., Dieben 2, c sw nw 30-13n-7w	¶10	1327
Stewart-Atha, Inc., Amsden 5, ne sw 31-13n-7w	30	1334
MIDLAND COUNTY—		
Pure Oil Co., Balch 5, n½ sw sw 2-13n-2w	110	3450
Bond-Root 11, s½ nw nw 2-13n-2w	190	3440
Root E-1, n½ nw nw 7-13n-1w	90	3494
MUSKEGON COUNTY—		
Rex O&G Co., Gibson 1, c w-w-nw 9-9n-14w	¶¾	1300

*Failures; †Junked; ¶Million cu. ft. gas.

Work On Increase

THREE ACTIVE PLAYS BOOM MICHIGAN FIELDS

WEEKLY STAFF REPORT

Mt. Pleasant, Mich.—With three new plays rapidly taking shape Michigan oil operations are showing their most optimistic trend since the summer of 1935 when the Crystal-Ferris area was under development. Eleven locations were reported for the Arenac County district, nine for the Sherman (Isabella County) district and eight for the North Vernon (Isabella County) district this week directly resulting from three recent discoveries. Extensions in the Ogemaw County area and new production in some of the older districts has aided in boosting state drilling operations.

Paradoxically, it is the first time in the state's history in which three distinct districts have been opened simultaneously for development and the first time that plays have been opened late in the year. A fourth area (Buckeye township, Gladwin County) was opened three months ago but of three tests drilled following the discovery in Buckeye only one has been completed commercially, to cool this district.

Arenac County has jumped to the front in interest to overshadow at least momentarily the North Vernon and Sherman discoveries in Isabella County. McClanahan Oil Company's Seiginfous 1, Section 3-20n-4e, Clayton township, Arenac County, logged Dundee lime at 2455 feet and started producing 10 barrels hourly at 2470 feet. Production has been increased to an average of 38 barrels hourly for the past four days by deepening to 2485 feet or 30 feet in the lime horizon. Operators plan to deepen further.

McClanahan Pipe Line Company, affiliate of the producing company, immediately strung a 3-inch line to Prescot, about 5 miles to railroad loading racks.

Tests previously drilled to the northwest give some control on the area with the play generally following strong to the southeast as much as 5 miles. Most of the acreage, previously leased, is held by both independents and majors and well checkerboarded which accounts for the indications of a major development.

The Arenac well is believed definitely on the Ogemaw County trend although production is coming much higher in the lime and the lime is considerably more porous. Oil is about equal to Ogemaw crude, ranging from 30 to 35 gravity.

First important extension test to follow Oard discovery in Section 25-18n-1w, Buckeye township, Gladwin County, located a mile north and quarter mile east, failed to show commercially and will be abandoned as a Dundee failure. Test was drilled by D. F. Jones on Doane 1, Section 33-18n-1e, Hay township. Lime was logged at 3503 feet and hole bottomed at 3700 feet without water.

Latest attempt to pick up production on southeast trend of Broomfield high in Broomfield township, Isabella County, also will be abandoned as a failure. Snyder Drilling Company's Fritz 1, Section 13-14n-6w, 4 miles southeast of Pure Oil Company's Embrey discovery in Sherman township, logged lime at 3683 feet and had black water at 3782 feet. McClanahan Oil Company also is quitting Cook 1, Section 15-16n-5w, Gilmore township, Isabella County, as a Dundee-Monroe lime failure. Dundee failed to show and after logging Monroe lime at 4100 feet it was quit at 4149 feet.

EASTERN FIELDS

WEEKLY STAFF REPORT

Completions

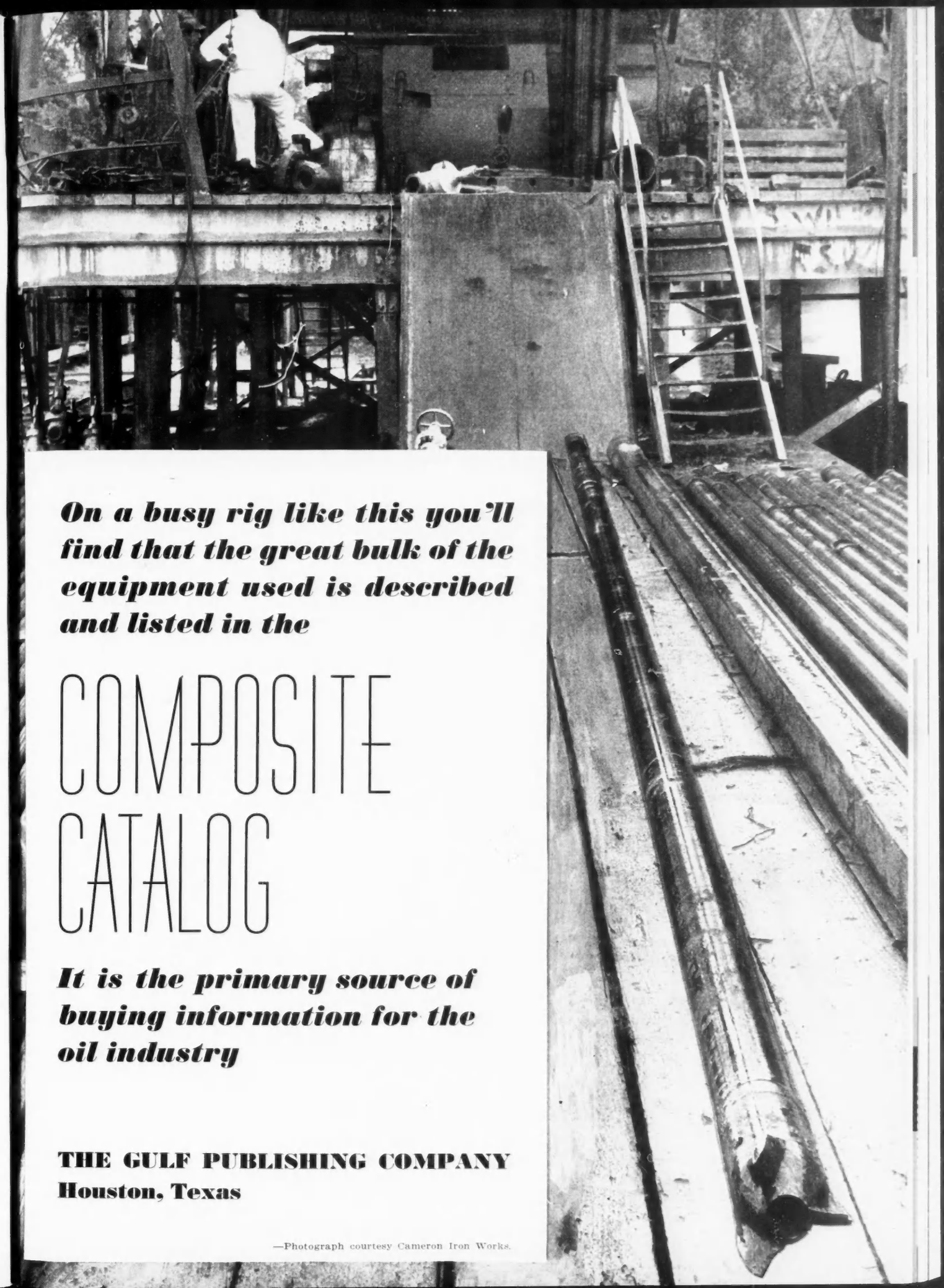
OHIO

Company, Well and Location	Init. Prod. Bbls.	Depth
ASHLAND COUNTY—		
Ohio F. G. Co., McFadden 1	*	3250
BELMONT COUNTY—		
Union Gaso. Oil Corp., Kroky 2	18	1154
Whitis & Co., Freiberg Honsa 5	2	1933
LICKING COUNTY—		
Armstrong & Co., Motherspaw 18	1	706
LORAIN COUNTY—		
Ohio F. G. Co., E. J. Carver 1	¶	3100
MEDINA COUNTY—		
Ohio F. G. Co., Fleck 1	¶	3488
Edson & Son Co., Wideman 1	*	3040
MORGAN COUNTY—		
Leland Burt & Co., Tuttle 7	6	450
Batcher & Co., Ross 2	3	681
Ohio F. G. Co., Phelps 1	¶	959
MUSKINGUM COUNTY—		¶
E. H. Everett Co., Gill Hrs. 1	35	2975
Atha Drlg. Co., Romanosky 1	*	3597
PERRY COUNTY—		
Thistle Oil Co., Drake 26	5	995
Preston Oil Co., S.C.C. Co. 141	130	3609
Wehrle Bros., Worley Deaver 4	70	1073
STARKE COUNTY—		
Ohio F. G. Co., Neidert 1	¶	....
Stevenson & Pendegrast, Brooks Johnson 2	¶	600
MUSKINGUM COUNTY—		
McIntyre Bros., Junius Greenwood 3	10	925
Gale, G. T. Gale Heirs 5	5	950
John Sheets, H. B. Walker Trustee 41	7	135
Bowman & Co., Soulbury Farm 1	1	730
Helen J. Burt & Co., Harvey Pugh 3	1	....
WAYNE COUNTY—		
Ohio FG Co., Dennis Hiner 1	¶	3132

KENTUCKY

McLEAN COUNTY—		
W. E. Hupp & Co., Cook 1	*	....
Ohio O. L. Co., McMamana No. 2 10	5	....

*Failures; †Junked; ¶Million cu. ft. gas.



On a busy rig like this you'll find that the great bulk of the equipment used is described and listed in the

COMPOSITE CATALOG

It is the primary source of buying information for the oil industry

THE GULF PUBLISHING COMPANY
Houston, Texas

—Photograph courtesy Cameron Iron Works.

THE OIL WEEKLY REPORT ON IMPORTANT *Wildcat Tests*

ALABAMA

HOUSTON COUNTY—Rice O&G Co.'s Oakley Est. 2, 9-3n-29e, elev 191 ft, sd for heavier rig 4002 ft.

MOBILE COUNTY—Grand Bayou O&G Co.'s J. A. Stafford 1, 24-7s-3w, lcn.

ARKANSAS

BRADLEY COUNTY—Phillips Pet. Co. & Joe Modisett's Brown 1, ne nw 28-16-12, elev 90 ft, top red beds 2829 ft, dr 4525 ft shale.

CALHOUN COUNTY—I. P. B. Oil Corp.'s Henisberger 1, sw se 9-11-13, elev 207 ft, dr 1474 ft.

COLUMBIA COUNTY — Burford & Co.'s Kendrick 1, nw se 9-19-18, arr abn, td 5419 ft, red shale. J. C. Buckbee, Tr.'s Cumbie 1, 17-17-18, dr 3260 ft. King Oil Corp.'s Fullenwider and Kitchen 2, se nw 13-17-22, dr 2776 ft, top Nacatosh 1915 ft.

CLARK COUNTY—J. G. Wooten's Sparkman 1, 1-11-20, dr 1000 ft.

CLEVELAND COUNTY—Diffie et al's L. C. Ross 1, sw ne 1-11-11, sd 100 ft. R. L. Saxon's L. C. Tipton 1, sw ne 13-11-12, elev 207.4 ft, rur. J. R. Lockhart's I. Robertson 1, se se 36-10-11, dr 2180 ft shale.

DALLAS COUNTY—Walter Lown's Atkinson 1, ne nw se 7-10-13, dr 1600 ft chalk.

GRANT COUNTY—Wallace & Staples' W. F. Davis 1, se se nw 23-6-15, rur.

HEMPSTEAD COUNTY—H. D. Easton et al's Conway-Tiller 2, sw sw 34-12-27, elev 251 ft, co to deepen 3005 ft. Imperial O&G Products Co.'s Foster 1, nw sw 35-12-26, elev 332 ft, 3511-42 coarse hd sandy lime, 3542-62 ft, solid gray lime, sd 3683 ft. Root Pet. Co.'s Jones 1, ne sw ne 16-13-32, rur.

LITTLE RIVER COUNTY—M. E. Sanderson's Penning 1, ne ne sw 6-13-30, sd. Joe Strahan's Dierks Lbr. Co. 1, 21-12-28, 10-in csg 40 ft, sd 600 ft.

MILLER COUNTY—Erwin & Leach's Red River Farms 1, 2-17-26, 10-in csg 447 ft, top first anhydrite 4454 ft, top massive 4610 ft, arr abn, td 5212 ft. Joiner et al's Montana Realty Co. 1, top massive anhydrite 4005 ft, so 4632-64 ft, so 5536-54 ft, arr set csg, td 5603 ft. C. V. Lenz's Dale 7, 24-15-26, cored sand, so 4210-16 ft, arr set csg.

NEVADA COUNTY—Benedum & Trees Oil Co.'s Groves 1, sw sw 10-14-20, elev 353 ft, pumping oil and water 30 bbls hr, td 2287 ft. Groves 2, 10-14-20, dr 1200 ft; Groves 3, 10-14-20, rur. Steel & Warmack's Wm. Haynie 1, se se nw 6-14-21, sd 200 ft. Benedum & Trees Oil Co.'s Fincher 1, 10-14-20, mim. L. M. Glasco's Ritchie 1, nw se 10-14-20, rur. Ritchie 2, 3 and 4, nw se, lcns.

POPE COUNTY—Ark.-La. Gas Co.'s L. C. Smith 1, sw sw se 10-8n-21w, 13⅜ in csg 1997 ft, dr 2820 ft.

UNION COUNTY—B. F. Tomblin's Taylor 1, nw sw nw 27-19-15, mim.

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

*—*dry hole abandoned well.*	owdd—*old well drilling deeper*
‡—*salt water (completions).*	owpb—*old well plugging back.*
†—*junked and abandoned.*	pb—*plugged back or plugging back.*
¶—*million feet of gas.*	r—*reaming.*
abd—*abandoned.*	rog—*rig on the ground.*
bbls—*barrels.*	rur—*rigging up rotary tools.*
br—*building rig.*	rust—*rigging up standard tools.*
b.s.—*basic sediment.*	sd—*shut down.*
csg—*casing.*	sdtr—*sidetracking.*
co—*cleaning out.*	sg—*show gas.*
dd—*drilling deeper.*	si—*shut in.*
dk—*derrick.*	so—*show oil.*
dr—*drilling.*	so&g—*show oil and gas.*
fsg—*fishing.*	spd—*spudding.*
ft—*feet.*	sr—*straight reaming.*
hfw—*hole full of water.*	sw—*salt water.*
in—*inches.*	td—*total depth.*
lcn—*location.*	ur—*underreaming.*
m—*milling.*	wih—*water in the hole.*
mim—*moving in materials.*	wo—*workover.*
mit—*moving in tools.*	wocs—*waiting on cement to set.*
mot—*milling on tools.*	wosr—*waiting on standard rig.*
n, s, e, w—*north, south, east, west.*	
oih—*oil in hole.*	

CALIFORNIA

FRESNO COUNTY

CANTUA CREEK — Mohawk Pet. Co.'s Langer 1, 30-16-15, dr sandy shale 4950 ft. Western Gulf's S. P. Land Co. 3, 3-17-15, td 8531 ft, fsh.

KERN COUNTY

LERDO—Arkelo Pet. Co.'s No. 1, 23-28-26, dr hard sand 5901 ft.

LOST HILLS—Associated No. 6-L-3, 2-26-20, td 2253 ft, plug 1757 ft, wocs 9⅝ in at 1460 ft; Williamson 12-A-3, 11-26-20, sd 1675 ft, sd 2830 ft; No. 1, 12-26-20, td 1846 ft, co. Standard's United 2, 2-26-20, lcn. Texas Co.'s Theta 1, 11-26-20, td 2037 ft, plug 2010 ft, pumping 100 bbls water and mud.

RIO BRAVO—Associated's K. C. L. 1, 30-29-25, td 7683 ft, caving, r to 5426 ft.

SOUTH MARICOPA—E. A. Bender's Robinson 1, 14-10-23, td 1235 ft, plug 750 ft, pumping water, trace of oil.

GREENFIELD — British American's Smith 1-A, 21-31-27, dr sand and gravel 250 ft.

SAN EMIDIO—I. L. Birch's No. 1, 3-10-23, sd 1325 ft.

MT. POSO—Calcoast Oil Co.'s No. 1, 36-26-27, dr shale 2387 ft.

WASCO—Continental Oil Co.'s K. C. L. A-1, 8-27-24, dr sticky shale 3633 ft.

DEVIL'S DEN—Lube Oil Co.'s No. 1, 2-25-18, rig. (formerly Big Brothers Oil Co.) Den Pet. Co.'s Bates 1, 20-25-19, dr shale 1316 ft.

JASMINE—Doyle Pet. Co.'s Quinn 1, 15-25-27, td 2956 ft, plug 2882 ft, bailing sand and oil.

EAST EDISON—East Edison Oil Co.'s Tejon 1, 21-30-30, td 1130 ft, testing water shutoff.

ARVIN—General Pet. Corp.'s Arvin 1, 26-31-29, dr gray sand light cuts 7343 ft.

GRAPEVINE—Hall-Baker Co.'s No. T 1, 12-10-19, rur. 99 Oil Co.'s Tejon 1, 5-10-19, sd 50 ft. Ohio Oil Co.'s Title Ins. & Trust D-1, 21-11-19, dr sandy shale, 4944 ft. Reserve Oil & Gas Co.'s Ritchie 33-1, 33-11-19, td 6030 ft, plug 5050 ft, to perforate and test; Tejon 33-2, 33-11-19, td 4505 ft, plug 4414 ft, to test casing.

MOUNTAIN VIEW — Mohawk Pet. Co.'s Earl Fruit 2, 10-31-29, td 6164 ft, to pull liner to recement.

KERN FRONT—Seskayden Oil Co.'s Sesnon 1, 17-28-27, td 2897 ft, in oil sand, bailing.

MOUNTAIN VIEW—Shell's Greer 1, 15-31-29, td 6171 ft, flow died, to pull liner to locate water.

TEN SECTION—Standard's K. C. 11-1, 19-29-26, dr hard gray shale 7507 ft. Superior Oil Co.'s K. C. L. 8, 11-30-26, dr shale 6883 ft.

MISCELLANEOUS

ALAMEDA COUNTY—Seaboard Oil Corp.'s Johnson 1, 13-3-3, td 5389 ft, r to core ahead.

HUMBOLDT COUNTY—Texas Co.'s Eureka 2, 22-3-1, dr shale 5874 ft.

KINGS COUNTY—Associated's Avenal 1 (Pyramid Hills), 35-23-17, td 3110 ft, plug 2890 ft, to abn. A. S. Clare's Laymance 1, 20-20-22, lcn. J. P. Herndall and Associates' Spreckles 1, 16-24-18, td 4201 ft, plug 1600 ft, sd. Milheim Oil Corp.'s Resources 1, 20-22-22, sd 5810 ft.

SAN BENITO COUNTY—Associated's Murphy Ranch 1, 5-12-4, td 4784 ft, fsh.

SAN JOAQUIN COUNTY—Standard's McDerold Island 2, 19-2-5, rur.

SOLANO COUNTY—Amerada Pet. Corp.'s Hamilton 1, 26-4-2, dr sand and shale 4519 ft; Hoppe 1, 22-4-2, sd 7029 ft.

SUTTER COUNTY—Buttes Oil Fields' No. 4, 2-15-11, spud Oct. 25, dr.

TULARE COUNTY—J. W. Alford's Williams 1, 28-16-23, td 1023 ft, rep equip. E. P. Jennings' No. 1, 4-24-23, sd 1830 ft. Trico Oil & Gas Co.'s Calif. Eastern 1, 2-23-23, sd 1800 ft; Callison 1, 27-21-25, sd 3377 ft.

MONTEREY COUNTY—Emil A. Anderson's No. 1, 15-24-14, lcn. Shell's Branch 2, 34-24-10, dr shale 4380 ft. Texas Co.'s Dunphy 1, 30-19-7, bldg road.

SAN LUIS OBISPO COUNTY—Cholame Synd.'s Jack 2, 10-25-15, td 3648 ft, co. Archie Mayes' No. 1 (oceano area) rur. R. W. McBurney's No. 1, 23-32-22, dr shale 1890 ft. Union's Porter 1, 22-32-15, dr sand and shale 2878 ft. United Northern Oil Co.'s Panorama 1, 2-32-21, dr sand 2230 ft.

SANTA BARBARA COUNTY—Associated's Edwards Estate 1, 2-4-30, dr red shale streaks sand 1363 ft. Bankline Oil Co.'s No. 2, permit 191 (Coal Oil Point) sd 4708 ft. Barnsdall Oil Co.'s Tognazzini 2 (Gato Ridge) dr shale 1268 ft. Julias Dietzman's Fithian 1, 8-4-25, td 1025 ft, rust. O. C. Field's Santa Rita 1, 11-7-33, sd 2064 ft. E. H. Moore's Union Sugar A-1, 25-10-35, dr shale streaks sand 8004 ft. 101 Oil Co.'s Hollister 1, 35-5-33, rur. Petrol Corp.'s Tognozzini 1, 9-8-32, lcn. Todos Santos Oil Co.'s No. 1, 29-9-34, td 2365 ft, replacing equip; McLoney 1, 4-8-32, sd 50 ft. Top Row Oil Co.'s Spanne 1, 6-35, td 1310 ft, rur.

VENTURA COUNTY — Ventura Explor. Co.'s Sexton 1, 30-3-22, td 9525 ft, swabbed salt water broke in at shoe, pulled tubing. Wasibi

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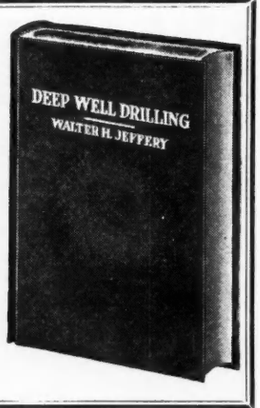

Oil Co.'s Speik 1, 35-5-19, td 1005 ft, r to straighten hole.

SOUTHERN CALIFORNIA

NEWHALL—Barnsdall Oil Co.'s Rancho S. F. 1, 26-4-17, dr hard shale streaks sand 4870 ft. Holbrook Pet. Co.'s Newhall L&F Co. 1, 28-4-16, dr hard shale 3411 ft. Yant Pet. Corp.'s Yant 5, 1-3-16, sd 2734 ft.

LYNWOOD—Calizoo Oil Co.'s Saulque 1, 9-3-13, td 3920 ft, to deepen.

NO. LONG BEACH—Geo. L. Clayton's No. 1, 32-3-12, wocs 11¾ in at 800 ft, bottom.

GARDENA—Crude Oil Dr. Co.'s No. 1, 31-3-13, sd 5490 ft. Standard's Bodger 1, 22-3-14, dr hard shale 6690 ft. Universal Cons. Oil Co.'s Carrell 1, 36-3-14, dr shale 1620 ft. West American Oil Co.'s Dominguez Estates 1, 5-4-13, td 6595 ft, plug 720 ft, to redrill.

EAST WHITTIER—Drillers' No. 1, 22-2-11, rur.

EL NIDO—E. L. Lystle's McKenna 1, 33-4-14, td 7352 ft, plug 4317 ft, landed perforated, swabbing water and gassy oil.

TORRANCE—Oliver McDowell's No. 1, 35-3-14, sd 7210 ft.

ASCOT SPEEDWAY—Republic Pet. Co.'s Jordan 1, 24-1-13, spud Nov. 12, dr.

DAVIDSON CITY—Shell's Flood Control 1, 11-4-13, 'sd 4307 ft.

HAWTHORNE — Signal Finance Corp.'s Woods 1, 10-3-14, td 9326 ft, waiting on 3 in dr pipe.

FOX HILLS—Superior Oil Co.'s Inglewood Ext. 1, 25-2-15, dr shale 8324 ft.

PLACENTIA—Calif. Eastern Oil Co.'s Verde 1, 31-3-9, td 4750 ft, redr at 4635 ft.

EAST RICHFIELD—West Coast Ref. Co.'s Yorba 1, 25-3-9, td 2128 ft, redr at 1702 ft, in shale streaks of sand.

SAN BERNARDINO COUNTY—Equitable Pet. Explor. Co.'s No. 1, 11-10-5, dr sand 3031 ft. Tehama Pet. Co.'s Kraemer-Backs 2, 33-2-8, dr hard shale 940 ft; Pellissier 1, 4-3-8, dr hard shale 1322 ft.

FLORIDA

LAKE COUNTY—Oil Dev. Co. of Fla's Gulf Expl. Co. 2, se se 17-24s-25e, elev 120 ft., coring 5645 ft., lime & sand.

NASSAU COUNTY—St. Mary's River Oil Corp's Bank of Hilliard 1, nw ne se 19-4n-24e, elev 110 ft. re-setting csg 750 ft.

POLK COUNTY—Edw. A. Hill's Polk County Lbr. Co. 1, nw ne 32-25s-25e, elev 90 ft., dk.

KANSAS

BARBER COUNTY—Sinclair Prairie's Gentry 1, ne ne ne 1-33s-15w, dr 5395 ft. Pure's Palmer 1, se ne sw 10-33s-10w, brr.

BARTON COUNTY—Brouk et al's Keil 1, se se ne 11-16s-15w, testing. C. L. Price' Deutsch 1, nw nw ne 16-16s-13w, sd 3153 ft. F. E. Bailey's Hammeke 1, nw ne sw 12-18s-12w, abd 315 ft. Minnehoma O&G Co.'s Smith 1, nw nw ne 20-18s-13w, rur. Duee & Brouk's Baker 1, ne se sw 16-17s--3w, mim.

BUTLER COUNTY — Simpson Oil Co.'s Deblem 1, sw sw sw 11-26s-6e, dr 3115 ft. Hutchinson O&G Co.'s Westfall 1-A, se sw se 13-27s-3w, sd 3020 ft. Wixon et al's Coulter 1, nw sw ne 3-27s-7e, mim.

CHASE COUNTY—Hanna et al's Brothers 1, se se nw 25-20s-8w, mim. Propp et al's Fromm 1, se se se 29-18s-9e, sd 2150 ft.

CLARK COUNTY — Olson & Watchorn's Morrison 1, cse sw 17-32s-21w, co.

COWLEY COUNTY—Home Natural & McNish' Werner 2, se se sw 31-32s-6e, dr 1950 ft. Croft et al's Whitson 1, ne ne ne 20-33s-4e, ru. 11s-19w, dr 2975 ft. Lario's Marshall 1, nw se ne 36-11s-18w, td 3650 ft., S 17 bbls oil per hr. sw 14-31s-3e, loc. Austin & McKnabb's Wilson 1, ne ne se 20-32s-6e, mim.

EDWARDS COUNTY—Stanolind & Elwell's Donovan 1, cse se 14-25s-18w, dr by.

ELLIS COUNTY—Empire's Samuelson 1, ne ne sw 31-11s-16w, ur 5-in csg. Bridgeport Mach's Ubert 1, ne ne nw 12-13s-18w, dr cement. Trigg et al's Armbrister 1, se se sw 6-11s-19w, dr 2975 ft. Lario Marshall 1, nw se ne 36-11s-18w, td 3650 ft, S 17 bbls oil per hr. Champlin et al's Hadley 1, se sw ne 30-11s-17w, abd 3830 ft. Ted Kerr et al's Koblitz 1, se sw nw 23-12s-18w, set 8-in csg 3018 ft, sd. Glick & McMorrow's Staab 1, sw sw se 6-13s-17w, dr 3520 ft. Taylor et al's Emery 1, ne ne ne 23-14s-18w, set 6-in csg 3289 ft. Brouk et al's Jacobs 1, nw nw se 31-15s-16w, dr 3317 ft. Murphy Oil Co.'s Wiesner 1, se se sw 12-14s-19w, dr 720 ft. Jones Bros. et al's Phil'ip 1, se se nw 9-15s-17w, skid rig 22 ft east. Lario O&G Co.'s Cress 1, ne ne ne 13-11s-17w, dr 740 ft. Loomis & Etyner's O'Laughlin 1, se se nw 27-13s-18w, bldg rig.

GRAHAM COUNTY — Nook & Young's Hills 1, nw se se 19-10s-21w, dr 3802 ft.

GRANT COUNTY—Columbian Fuel Co.'s Gray 1, cse 3-29s-35w, co.

GREENWOOD COUNTY—Hale & Reese's Needles 1, ne sw nw 12-25s-10e, dr 1790 ft. Estes et al's Edgar 1, nw nw se 1-28s-8e, dr 1020 ft. Scott et al's Pedroja 1, se ne se 6-26s-10e, dr 2155 ft.

HARVEY COUNTY—Harburney Oil Co.'s Schragg 1, nw nw se 24-22s-3w, td 3265 ft. Saco et al's Guthrie 1, ne ne nw 8-22s-2e, dr 670 ft.

KEARNEY COUNTY—J. L. Murphy et al's Campbell 1, nw nw sw 32-25s-35w, td 2595 ft.

MARION COUNTY—Western Kansas O. & Ref. Co.'s Hauser 1, sw sw sw 19-19s-4e, spd. Harwood Oil et al's Mott 1, ne ne ne 2-17s-4e, dr 2090 ft.

MITCHELL COUNTY—Geo. Siedhoff et al's Greiss 1, sw sw se 16-8s-10w, br.

NESS COUNTY—Newton Dev. Co.'s Tenny 1, nw nw se 19-18s-25w, sd 2450 ft.

PAWNEE COUNTY — Kessler & Their's Shea 1, ne ne ne 22-21s-17w, dr 2024 ft.

PRATT COUNTY—H. V. Elwell et al's Fay 1, nw nw se 15-27s-14w, dr 3500 ft. I. T. I. O. & Olson's Bolt 1, cnw ne 5-29s-11w, dr 4591 ft.

RENO COUNTY—Miller et al's Detter 1, ne se nw 28-22s-7w, ur 8-in csg 3265 ft. Pryor & Lockhart's Kerr 1, cnw 22-23s-8w, dr 4100 ft. Foraker et al's Hiett 1, se sw ne 34-24s-4w, dr 3555 ft. Clyde Pulse et al's Payne 1, sw nw ne 4-22s-7w, set 10-in cas 1905 ft. Ince Prod. Co.'s Moore 1, cne ne 26-24s-3w, dr 2200 ft. Empire's Schrock 1, nw nw ne 22-24s-5w, loc. Westgate-Greenland Oil Co.'s Fossey 1, sw sw se 12-22s-8w, dr 1810 ft.

RICE COUNTY—Carlock et al's Deweese 1, sw nw nw 32-20s-7w, dr cement. Shell Pet. Corp.'s Soenken 1-A, cnw 10-19s-9w, dr 2844 ft. Aylward et al's Johnson 1, nw nw ne 17-21s-7w, rur. I. T. I. O. Co.'s Fossey 1, sw sw ne 31-20s-10w, mim.

ROOKS COUNTY—L. C. D. Drlg. Co.'s Westhusin 1, cne se 11-19s-17w, 1500 ft oih, S 36 bbls oil, 8 hrs. J. A. Shoemake's Stebbins 1, ne ne sw 26-7s-17w, P 25 bbls oil and 100 bbls water. Buckner & Schaff's McConnell 1, ne ne ne 34-6s-18w, dr 816 ft. Empire's Ham 1, sw nw nw 24-8s-19w, sd 2400 ft. Jarvis & Strickland's Hamel 1, se se sw 7-8s-20w, dr 50 ft. Snowden & McSweeney's Hindman 1, ce¼ nw 35-7s-17w, mim.

RUSH COUNTY—Ralph Wixton et al's Gorham Est. 1, nw nw sw 35-15s- 16w, td 3487 ft., 500 ft. wih. Sheedy et al's Bison 1, sw sw sw 35-16s-17w, sd 3390 ft. Schoenfeld & Kitch's Winget 1, se se se 15-16s-16w, set 15-in csg 367 ft.

RUSSELL COUNTY—Hartman & Blair's Johnson 1, nw nw nw 11-13s-15w, woc. Joe Aylward et al's McAllister 1, ne ne se 9-12s-13w, sdo 3568 ft. Empire's Frederick 1, se se se 18-15s-11w, mim.

SALINE COUNTY—James Brouk et al's Othelander 1, ne nw se 10-16s-13w, sd 2650 ft.

SCOTT COUNTY—C .R. Blackman et al's Nolan 1, nw nw ne 13-19s-33w, loc.

SEDGWICK COUNTY—Lauck's McLean 1, csw se 1-27s-1w, dr 4400 ft. R. J. Wallace et al's Sheer 1, sw sw sw 22-27s-3w, dr 3975 ft. Cameron et al's Smith 1, sw se se 13-27s-2e, br.

SEWARD COUNTY—Helmerich & Payne's Hyde 1, csw 14-31s-34w, rig.

SMITH COUNTY—Helmerich & Payne et al's Meyer 1, ne ne sw 10-5s-11w, dr 2750 ft.

STAFFORD COUNTY—Skelly's Kipp 1, se se ne 27-25s-14w, dr 4032 ft. C. E. Skiles et al's Leidigh 1, nw nw sw 21-22s-11w, ur 8-in csg 2985 ft. Empire's Jordan 1, sw sw nw 15-25s-14w, dr 3740 ft. Skiles et al's Hughes 1, sw sw sw 12-23s-12w, ru. Atlantic et al's Davis C-46 1, se se sw 32-23s-12w, set 12-in csk 245 ft., woc.

SUMNER COUNTY — Rosespring's Rutter 1-A, cnw nw 21-33s-2e, dr 2035 ft. W. C. McBride & Olson's Kinlund 1, ne nw ne 24-34s-1e, dr 3771 ft. Empire's Hoffman 1, nw nw sw 27-34s-1e, dr 1055 ft. Graham et al's Dawson 1, nw nw nw 4-33s-2w, dr 508 ft. Lario et al's Hall 1, nw sw nw 11-35s-1e, rig.

TREGO COUNTY—York State Oil Co.'s Gugler 1, sw sw sw 36-12s-21w, 1400 ft oih 5 hrs, to run 5-in csg.

WOODSON COUNTY — Dunn & Lewis' Dawson 2, cne ne 27-26s-13e, sd 925 ft. Dwyer et al's Wolf 1, ne ne sw 9-24s-14e, dr 150 ft.

NORTH LOUISIANA

BIENVILLE PARISH—Lide, Greer et al's J. D. Smelley 1, se sw ne 13-16n-5w, rur. De-Soto O&G Co.'s Dunn & Olsen 1, n½ nw 15-16n-10w, so in lime 3436 ft, dr 4105 ft. McDowell et al's Locke 1, ne nw ne 9-15n-9w, sd 744 ft. Texas-Seaboard Oil Corp.'s McGee 1, 3-16n-6w, owdd, td 5905 ft.

BOSSIER PARISH—Ark. La. Gas Co.'s McDade 1, 8-17n-11w, 7-in csg 4216 ft, making 30 mil ft gas, td 4294 ft. Davis 1, 8-17n-11w, mim. Potter 1, 8-17n-11w, mim. United Gas' Roos 1, 23-17n-12w, tested 12 mil ft gas, si for gauge, td 5209 ft. Skannal G-1, se ne 22-17n-12w, 9⅝ in csg 3255 ft, dr 4061 ft.

CADDO PARISH—Prairie River Oil Synd.'s Hutchinson 1, sw sw 15-15n-12w, elev 152 ft, top Travis Peak 5845 ft, sd 7396 ft. Ferguson & Co.'s Huckabay 1, 22-22n-16w, dk. Gulf's E.

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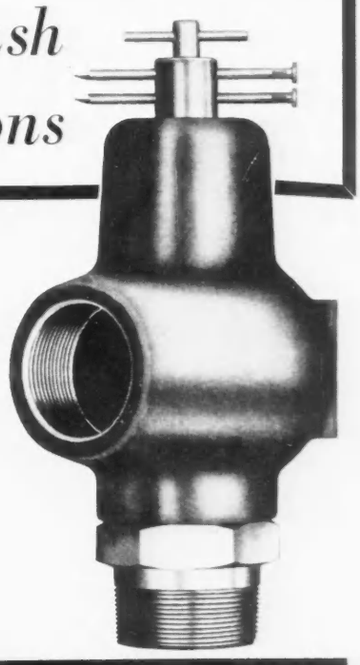

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P. Hatcher 1, 11-17n-15w, elev 269 ft, top Travis Peak 5998 ft, hole clean, dr 6906 ft. Producers O&G Co.'s Currie et al 2, ne se 32-19n-16w, sd 954 ft.

CLAIBORNE PARISH—E. T. Oakes' Patton Estate 2, ne ne 1-20n-5w, elev 357 ft. 7-in csg 5007 ft, coring 5225 ft, sand. Sugar Creek Synd.'s Darrett 2, se sw 31-20n-5w, cemtd 7-in csg 5480 ft, td 8616 ft; Taylor 1, 1-19n-5w, dr 5785 ft. Max Hirsch et al's C. O. Ferguson 1, nw sw 29-22n-6w, dk.

CATAHOULA PARISH—C. P. Brown's T. J. Chishum 1, 19-10n-8e, lcn.

DE SOTO PARISH—Sundby et al's Garland 1, se nw 7-14n-14w, coring 2202 ft, marl. Kamon et al's Rascoe 1, se nw 14-13n-13w, 7-in csg 1092 ft, topped chalk 1625 ft, acidized, td 1810 ft, shale. Julian-Igoe Synd.'s Hallie Smith 1, se se 31-14n-15w, lcn. Pearl Oil Corp.'s Joyner 1, se nw sw 28-11n-12w, dr 3000 ft. Grogan et al's Ramsey 1, 36-11n-11w, fsg 1780 ft. Sanders et al's L. N. Allison 1, nec 17-14n-13w, mir. R. C. Payne's Harris 1, 11-13n-14w, arr core 2832 ft.

FRANKLIN PARISH—Sherrouse & Snyder's Kimble 1, ne se sw 36-12n-8e, rur. S. C. Jensen's Bailey 1, c se nw 12-11n-6e, sd 2285 ft.

MOREHOUSE PARISH—Henry E. Rondeau et al's E. M. Clarke 1, ne se 10-22n-7e, elev 180 ft, top red beds 2874 ft, arr deepen 3871 ft.

NATCHITOCHES PARISH — Natchitoches Oil Co.'s J. S. Simpson 1, 12-7n-7w, sd 1350 ft shale. Lent et al's Locke 1, se sw 26-9n-9w, sd 30 ft. C. D. Morrison's Moffit 1, se se 19-10n-10w, sd 220 ft. Union Pet. Co.'s DeBlieux 2, 83-10n-7w, sd 3951 ft chalk. A. J. Williams' Coats 1, 31-10n-10w, rog.

RED RIVER PARISH — Hunter et al's Long-Bell Lbr. Co. 1, ne ne 19-13n-9w, 7-in csg 3696 ft, pb and tested sw again, sd td 3734 ft.

RICHLAND PARISH—Gulf's R. R. Rhymes 15, nw se ne 32-17n-6e, elev 77 ft, top anhydrite 2936 ft, base red beds 6380 ft, 8108 ft.

SABINE PARISH — Earl F. Fox's L. B. Blankenship 1, 13-9n-12w, lcn. Whitehurst et al's Whitney Corp. 1, c nw ne 8-9n-13w, dr out bridges, td 5503 ft. A. H. Tarver's Baker 3, ne nw 36-8n-12w, sd 6178 ft.

WEBSTER PARISH—Ohio Oil Co.'s Bodcaw Lbr. Co. 1, c ne se 28-21n-10w, elev 234.8 ft, top anhydrite stringer 3969 ft, top massive anhydrite 4225 ft, base anhydrite stringer 4546 ft, dr 7028 ft; R. M. Coyle 1, elev 215.8 ft, massive anhydrite 4119-4359 ft, dr 6965 ft. United's Nixon 1, 22-21n-10w, elev 230 ft, top massive anhydrite 4195 ft, top Travis Peak 5585 ft. ds stuck, td 6796 ft; C. V. Davis 2, c nw nw 23-21n-10w, dr 6730 ft. Magnolia's Cox 1, 23-21n-10w, ran electrical tester, cemtd 95§ in casing 6500 ft, td 6510 ft. R. W. Norton's Fee 1, 27-21n-10w, mim. Woodley Pet. Co.'s R. R. Cox 1, sw sw 23-21n-10w, tested sw at 4930 and 5550 ft, sd, td 5640 ft; L. C. Cox 1, 28-21n-10w, dr 4180 ft. Seaboard Oil Corp.'s Cotton Valley L&T Co. 1, nw sw 35-22n-10w, 20-in csg 262 ft, 15-in csg 1237 ft, dr 4656 ft. Tidewater Oil Co.'s L. Pipes 1, 10-8n-10w, cemt 13 in csg 1250 ft. Standard of La.'s Fudicker 1, 2-17n-9w, rur (8000 ft test).

WINN PARISH—C. W. Cline's Collingsworth Hrs. 1, se se 14-10n-6w, mim.

SOUTH LOUISIANA

ACADIA PARISH—H. E. Dalton's Setting 1, Trilby prospect, 17-9s-1w, sd 5047 ft. Humble's Nordyke 1, Ebenezer prospect, 23-10s-1e, mim.

ALLEN PARISH—Humble's Bel 3, Bel prospect, 28-6s-7w, dr shale 3043 ft.

CAMERON PARISH—Magnolia's School Land 1, Johnson Bayou prospect, 16-15s-14w, sd on account of water at 8861 ft; same operator's R. Le Bleau 1, Big Lake area, 13-12s-8w, dr sand 7792 ft. Pure's State Mallard Bay 1, Mallard Bay prospect, 22-13s-3w, dr shale 6206 ft.

EAST BATON ROUGE PARISH—Cavalier Oil Co.'s Gignes 1, ne of Hope Villa, 40-8s-2e, preparing to dr deeper 6475 ft.

IBERIA PARISH—Texas Co.'s State Fausse Point 1, Fausse Point prospect, 35-11s-8e, reaming to set 7-in csg at 6430 ft; same operator's State Vermillion Bay B-1, in Vermilion Bay, 20-15s-6e, no report.

IBERVILLE PARISH—Humble's Wilbert 1, Bayou Blue, 67-9s-11e, dr shale 3278 ft.

JEFFERSON PARISH—Triangle Oil Co.'s Carroll 1, 125-12s-11e, dr shale 1190 ft.

JEFFERSON DAVIS PARISH — Shell's Sturdevant 1, South Roanoke prospect, 25-10s-4w, mixing mud at 9749 ft. Stanolind's Calcasieu National Bank 1, South Jennings prospect, 15-10s-3w, comp. 8648 ft, 25 bbls distillate and 2,000,000 cubic ft gas daily.

LA FOURCHE PARISH—Wm. Helis's City of New Orleans 1, Marchland prospect, 19-23s-23e, dr hard sand 4390 ft. Pan American Production Co.'s Harange 1, Valentine prospect, 7-17s-20e, ru. dr shale 1943 ft.

PLAQUEMINES PARISH—Gulf's State Bay Adams 1, in Bay Adams, 32-19s-28e, Tide Water's Manhatten Fruit 2, Venice dome, 26-21s-30e, dr shale 2716 ft.

ST. BERNARD PARISH—Gulf's Lake Lery 1, Lake Lery prospect, 28-14s-14e, dr shale 2017 ft. Southern Sulphur Co.'s State 2, Lake Borgne area, 38-14s-15e, sd 752 ft.

ST. JAMES PARISH—Shell's Colonial Sugar 2, Hester prospect, 5-12s-5e, dr sand no show 7231 ft.

ST. LANDRY PARISH—Stanley Thompson's Lewis 1, ne of Port Barre, 25-9s-6e, dr shale 4162 ft. Superior Oil Producing Co.'s A. Savoie 1, ne of Bosco, 26-8s-3e, dr shale 5790 ft.

ST. MARTIN PARISH—Shell's Hefea Land Co. 1, Gecho-Arnaudville area, 38-8s-5e, woc 2508 ft.

ST. MARY PARISH—Mike Hogg's Bayou Teche 1, w of Charenton, 5-13s-9e, abn 8008 ft. Texas Co's State Bayou Sale 1, Wax Lake prospect, 40-7s-9e, dr shale 8540 ft.

TERREBONNE PARISH—Humble's Elender 1, Houma Gas field, 23-19s-19e, dr shale 8147 ft. Shell's Realty Operators 1-B, 11 mi w of Houma, 18-17s-15e, digging pits.

VERMILION PARISH—Continental's Hebert 1, Abbeville prospect, 20-12s-3e, dr in sdtr hole 11,198 ft. Stanolind's Fred Stovall 1, South Abbeville prospect, 89-14s-3e, dr shale 6817 ft.

UTAH

GRAND COUNTY—Columbia Crude Corporation's Rath-Government 1, ne sw ne 12-25s-20e, dr 1619 ft. Utah-Southern Oil Co.'s Hyde-Government 1, s nw nw 32-22s-2e, dr 5665 ft.

EMERY COUNTY—California Co.'s Newton S. Palm 1, sw 22-23s-11e, sd 2285 ft awaiting orders. Test may change over to standard tools because of water shortage.

SUMMIT COUNTY—Longwall Petroleum Co.'s 1, se sw se 35-3n-5e, dr 1926 ft.

UTAH COUNTY—Diaming Fork Oil Co.'s 4, s se nw 16-8s-5e, dr 4000 ft.

NEBRASKA

FRANKLIN COUNTY—William Stienle's 1, se ne se 25-1n-15w, dr 365 ft.

SIOUX COUNTY—J. M. Huber Corporation's Morgan 1, cnw sw 32-35n-56w, dr 2215 ft.

MONTANA

CARBON COUNTY—East Bridger Oil & Gas Co.'s 1, csl se se 23-6s-23e, dr 1351 ft.

CASCADE COUNTY—Cl. Smith's Hines 1, se se sw 14-22n-2e, dr 1720 ft.

FERGUS COUNTY—Emmons et al's Government 3, se ne ne 6-21n-18e, dr 985 ft., os at 880 ft. Judith Operating Co.'s Government 2, cwl nw ne 35-22n-17e, ur to lower 8⅝-in. csg to bottom at 3200 ft.

PARK COUNTY—Ben Ryan's Burgess 1, se sw nw 28-28n-11e, dr 219 ft.

PHILLIPS COUNTY—R. G. Parrent's Hartman 1, cnw se 12-24n-25e, dr 500 ft.

PONDERA COUNTY—Gordon Campbell's Hughes 1, nw ne nw 12-30n-4w, running 5-in csg. to 2360 ft., td at 2400 ft.

YELLOWSTONE COUNTY—R. C. Tarrant's Mosher 1, cwl se ne 26-3s-24e, dr in Madison lime at 2540 ft.

MICHIGAN

ARENAC COUNTY — Hagan & Wright's Soburay 1, sw nw ne sec 12-17n-4&5e (Pinconning twp), lcn. McClanahan Oil Co.'s Mee 1, sec 11-20n-4e, dr 2300 ft. Central Drilling Co.'s Fisk 1, sec 16-19n-4e, dr 1100 ft.

CLARE COUNTY—Wittmer Oil Co.'s Musgrove 1, sec 15-24n-1w, dr 700 ft. McClanahan Oil Co.'s Robinson 1, sw sw sw sec 31-17n-4w, dr 400 ft. Sun Oil Co.'s Campbell 1, ne nw nw sec 12-19n-3w, dr 190 ft.

CLINTON COUNTY—St. Louis Pipe & Supply Co.'s Harris 1, sec 14-7n-2w, csg 5-in 2720 ft. Petroleum Exploration Co.'s Schneeberger 1, sec 11-5n-2w, sd 100 ft; Jensen 1, sec 6-5n-1w, dr 1600 ft.

GLADWIN COUNTY — J. V. Wicklund Dev.'s State A-1, sec 11-18n-1w, dr 400 ft. C. L. Maguire, Inc.'s Foster 1, sec 15-18n-1w, sd 1250 ft. Muskegon Dev.'s Wineman 1, sec 33-18n-1e, dr 3000 ft.

GRATIOT COUNTY — Ithaca Exploration Co.'s Hart 1, sec 10-10n-3w, dr 3040 ft. Cartier Oil Co.'s McCoskey 1, sec 23-11n-2w, dr 3000 ft. Herbert Snell's Smead 1, sec 20-11n-4w, dr 2900 ft.

HILLSDALE COUNTY — H. H. Heinig's Daley 1, se se se sec 10-7s-4w, lcn. Jacob Beck's Fee 1, sec 16-6s-3w, dr 2640 ft.

HURON COUNTY—C. W. Teater's Keller 1, ne sw nw sec 27-16n-11e, mim.

ISABELLA COUNTY — Michigan Cities' Bacome 1, w½ s 50 acres, nw sec 19-13n-4w, dr 700 ft. Mountain O&G Co.'s Thompson 1, sec 17-15n-6w, dr 3200 ft.

MECOSTA COUNTY—Marquette River Oil Co.'s Nimbauger 1, sec 27-13n-9w, lcn. Taggart Brothers' Waters 1, sec 28-16n-8w, dr 3400 ft; Peterson 1, c se se sec 33-15n-9w, owdd, co 1350 ft.

MISSAUKEE COUNTY — M. J. Ingold's Donley 1, sec 31-22n-8w, dr 3300 ft.

MONTCALM COUNTY—L. T. Barber's Rice 1, sec 20-12n-7w, dr 3200 ft. R. E. Gallagher's Hayden 1, nw ne ne sec 25-11n-7w, lcn. Jetter Oil Co.'s Arntz 1, sec 1-9n-6w, dr 2960 ft; Eckert 1, ne nw sw sec 12-9n-6w, lcn. Daily Crude Oil Co.'s Weatherby 1, sec 20-12n-9w, dr 2900 ft.

MUSKEGON COUNTY — John Stonert's Drost 1, sec 34-11n-16w, sd 2140 ft. Michigan Oil Exploration Co.'s Veltman 1, sec 20-9n-16w, sd 1800 ft.

NEWAYGO COUNTY—M. R. Schemahorn's Cain 1, se nw sw sec 24-12n-11w, lcn.

OTTAWA COUNTY—Muskegon Oil Corp.'s Wolting 1, se se ne sec 35-6n-15w, lcn.

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OGEMAW COUNTY — Gordon Oil Co.'s Everitt 1, se sw sw sec 13-23n-2e, rig.

OSCEOLA COUNTY—M. B. Keller's Beall 1, sec 24-18n-9w, sd 1007 ft. Dibble Brothers' Townsend 1, sec 4-20n-17w, cementing cave 1100 ft.

ROSCOMMON COUNTY—Fletcher & Leyman's Childers 1, sec 15-24n-1w, dr 2600 ft. North Mich. Land Co.'s Hartwick 2, sec 31-24n-4w, lcn.

OTSEGO COUNTY—Harley Williams' Hanson-Race 1, sec 15-30n-1w, fsg 2200 ft.

SAGINAW COUNTY — Hubbel Oil Co.'s Schwigner 1, sec 5-11n-6e, dr 2600 ft. Jaenickie Oil Co.'s Moulton 1, sec 31-12n-2e, sd 3200 ft. Monitor Oil Co.'s Turnwald 1, sec 32-9n-4e, dr 1600 ft. C. W. Teater's Kilbourne 1, sec 35-12n-1e, dr 2500 ft.

MISSISSIPPI

BOLIVAR COUNTY—White & Jones' Ballou 1, ne ne 18-24n-7w, arr core 1680 ft.

CLAIBORNE COUNTY—Claiborne O&G Drlg. Co.'s Crawford 1, 6-13n-4e, elev 115 ft. sd for fuel 1780 ft. Claiborne County Dev. Co.'s Ruth Hayden 1, 56-11n-2e, lcn.

Grenada County—H. T. Salter's Carpenter 1, nw se 5-21n-7e, repr dk.

HINDS COUNTY—Chichester et al's Gerwin 1, sw nw 12-5n-4w, sd 525 ft.

KEMPER COUNTY—R. A. Keaton et al's Buckwalter Lbr. Co. 1, nec 6-10n-14e, dk.

LAMAR COUNTY—Sun's Scanland & Semmes 1, c sw ne 28-4n-13w, elev 317 ft. 95⅝ in csg cmtd 1623 ft. woc td 1636 ft. Snow-Black Pet. Co.'s Miller et al 1, ne ne sw 3-4n-15w, sd 3990 ft.

PERRY COUNTY—Fred E. Courson's Newman Lbr. Co. 2, se sw sw 2-2n-10w, dk & mir

SIMPSON COUNTY—Goodwill O&G Co.'s Berry 1, 33-2n-4e, dk & rog.

WILKINSON COUNTY—T. S. Stoneman et al's L. T. Ventress 1, ne sw 38-2n-3w, 10¾ in csg 799 ft., dr 3350 ft.

YALABOUSHA COUNTY—G. M. Langston et al's W. C. Bryant 1, ne sw 21-24n-6e, elev 276 ft., dk & Mir.

NEW MEXICO

LEA COUNTY— Argo Royalty Co.'s B. T. Lanehart 1, sw se ne 21-25s-37e, elev 3071 ft., cem 7-in 3578 ft., td 3620, testing. Anderson-Pritchard Prod. Corp.'s C. M. Carlson 1, c sw nw 21-25s-37e, mim. Baldridge et al's Blakey 1, c nw ne 5-20s-38e, elev 3586 ft., rust, td 2815 ft. Brown & Reynolds Parcell 1, c nw se 8-21s-38e, elev 3573 ft., dr 1615 ft. Carlock et al (was Talbott & Mullineaux's) Quincy-Ricker 1, c se se 7-16s-36e, elev 3945 ft., sd for cas 2010 ft. Amon G. Carter et al's E. M. Elliott 1, c nw nw 22-22s-37e, elev 3374 ft., machine; Elliott 2, c ne nw 22-22s-37e, elev 3375 ft., dk. C & G Oil Co.-The Texas Co.'s Ellen Weir 1, c ne ne 14-20s-37e, elev 3564 ft., to 4074 ft., tested little oil and lots water, sdo. J. C. Clower et al's W. H. Turner 1, c se se 29-21s-37e, elev 3469 ft., lost tools, sd 3483 ft. Barney Cockburn & Rowan-Nichols Oil Co.'s H. G. Mattern 1, c sw se 7-22s-37e, elev 3426 ft., td 3789 ft., testing. Conoco & The California Co.'s E. M. Elliott 1-A-15, se se se 15-22s-37e, elev 3354 ft., carrying 2000 ft. oih, dr 3594 ft.; Ira C. Forney 1-A-5, c sw se 5-23s-36e, elev 3457 ft., cem cas 196 ft.; Rex Williams 1-A-27, c sw sw 27-23s-35e, elev 3428 ft., rur and sd for w. Culbertson, Erwin & Stovall's J. R. Stuart-Repollo 2, nw se se 10-25s-37e, elev 3108 ft., show gas, fsh 3272 ft. Devonian Oil Co.'s A. L. Christmas 1, ne ne se 28-22s-37e, elev 3339 ft., cem sur cas 158 ft. Empire O&R Co.'s Sim Dabbs 1, c nw nw 23-25s-37e, elev 3086 ft., swabbed 1 bbl oil per hr at 3150 ft., co to dd; R. L. Brunson 1, nw nw se 4-22s-37e, mim; Anna Walden 1, c se nw 21-22s-37e, elev 3352 ft., dr 3360 ft. A. R. Eppenauer et al's F. B. Stuart-Amerada 1, ne nw ne 22-25s-37e, elev 3082 ft., sp and sd. J. E. Farrell & Co.'s E. W. Walden-Amerada 1-A, c sw nw 15-22s-37e, sp and sd for rotary; Walden-Amerada 1-C, c sw sw 15-22s-37e, elev 3385 ft., dr 1335 ft. Geo. F. Gettty Oil Co.'s D. C. Hardy 1, c se se 20-21s-37e, elev 3494 ft., dr 2600 ft. Harry W. Leonard et al's B. T. Lanehart 3, c ne nw 21-25s-37e, elev 3081 ft., cellar. Magnolia's E. O. Carson 3, c sw sw 28-21s-37e, elev 3467 ft., dr 1875 ft.; State 1-G, nw nw ne 24-17s-34e, elev 4019 ft., 1375 ft. Maljamar O&G Corp.'s Baish 7, c se nw 21-17s-32e, elev 4046 ft., fsh 770 ft. Joe C. Maxwell, R. Crandall & C. H. Osmond's State-Lane 1, c sw nw 32-10s-34e, elev 4205 ft., top anhydrite 2060 ft., rust, td 2175 ft. Plains Prod. Co. et al's J. A. E. Knight-Humble 2, c nw sw 22-24s-37e, elev 3234 ft., dr 2850 ft.; Knight-Humble 3, c se se 21-24s-37e, elev 3218 ft., dr 945 ft.; Knight-Humble 4, c sw sw 22-24s-37e, cellar. Repollo Oil Co.'s O. J. Boyd 2, nw nw nw 23-22s-37e, elev 3338 ft., est. 75,000,000 ft. air at 1805 ft., dr 2225 ft; Robt. Jamison 1, sw se ne 21-24s-37e, elev 3227 ft., show oil 3390-3400 ft. and 3445-50 ft., td 3494 ft., flowed 100 bbls. daily; A. M. York 1, se se ne 20-21s-37e, elev 3495 ft., dr 3060 ft. Rushwold Oil Co.-Conoco & California Co.'s E. E. Carter 1, c nw ne 30-20s-39e, elev 3559 ft., rur to fish for tools, td 508 ft. Samedan Oil Corp.'s S. B. Hughes 2, c nw se 4-23s-37e, elev 3318 ft., dr 230 ft. Shell Pet. Corp.'s Black 1, c. nw ne 21-24s-37e, elec 3227 ft., dr 3150 ft. Skelly Oil Co.'s Hugh C. Sims 1-D, c se nw 3-23s-37e, elev 3300 ft., dr 2200 ft.; G. W. Sims 1, c ne nw 10-23s-37e, elev 3301 ft., completed flowed 126 bbls. 12 hours, pay 3570-3636 ft.; R. R. Sims 2, c ne sw 3-23s-37e, elev 3298 ft., dr 235 ft; R. R. Sims 1-C, c se sw 3-23s-37e, elev 3297 ft., fsh 800 ft.; W. P. Sims 1, c ne ne 10-23s-37e, elev 3298 ft., shot 180 qts nitro 3540-3610 ft., td 3653 ft., flowed 102 bbls. oil 8 hrs, testing; W. P. Sims 1-B, c nw ne 10-23s-37e, elev 3296 ft., dr 1100 ft.; F. S. Stuart 1-A, near c ne nw 15-25s-37e, elev 3105 ft., rust, td, 3247 ft. Stanolind O&G Co.'s P. J. Langley 1, c se nw 15-25s-37e, elev 3109 ft., pb fr 3481 ft. to 3381 ft., testing. W. H. Street et al's Wood-Humble 1, near c se ne 22-22s-37e, elev 3355 ft., td 1174 ft., dr by junk 760 ft. Sun Oil Co.'s I. R. Stuart 2, c sw ne 15-25s-37e, lcn. The Texas Co.'s Jas. F. Black 1, c sw ne 21-24s-37e, elev 3225 ft., dr 1615 ft.; J. D. Young 1, se se se 5-24s-37e, elev 3277 ft., flows by heads, dr 3553 ft. Tide Water Oil Co.'s Coates 1-B, c nw nw 21-25s-37e, elev 3073 ft., pay 2895-2906 ft., td 2907 ft., testing.

ROOSEVELT COUNTY—Clovis Dev. Co.'s S. Smith 1, c se ne 17-2s-30e, rust. Franklin Oil Corp. et al's Rual Giphant 1, nw nw nw 28-3n-30e, elev 4458 ft., dr 2750 ft. Joe C. Maxwell, Inc., R. Crandall & C. H. Osmond's A. B. Williamson 1, c nw nw 7-8s-36e, dr 975 ft.

OKLAHOMA

ATOKA COUNTY—A. J. Sander's Redden 3, se sw sw' 19-1n-15e, td 9321½ ft., run 7-in csg.

BECKHAM COUNTY—Mid-American Oil Co.'s Biscoe 1, sw se ne 28-8n-22w, td 950 ft., rusm.

CADDO COUNTY—Wasteka Oil Co.'s Griffin 1, sw se ne 27-6n-10w, to dr second hole.

CARTER COUNTY—Head & Straus' Simpson-Fell 1, nw nw se 8-5s-1e, dr 430 ft.

CLEVELAND COUNTY—Helmerich &

GRIZZLY RED LINE for 7,500 lb. PRESSURE

GRIZZLY POWERFLEX for 10,000 lb. PRESSURE

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Payne's Glenn 1, cnw ne 6-8n-1w, dr 1225 ft.

COAL COUNTY—Sinclair Prairie Co.'s Culver 1, ne ne sw 16-1n-8e, pb 5162 ft. Continental's Kirby 1, sw se sw 23-1n-8e, pulling 9-in csg. Continental's Breedlove 1, nw sw sw 24-1n-8e, dr 3918 ft. Continental's King 1, ne sw ne 26-1n-8e, dr 4970 ft. Continental's Daniels 1, sw ne sw 27-1n-9e, dr 3710 ft. Carter's Warne 1, ne ne nw 31-3n-9e, dr 4850 ft.

COMANCHE COUNTY—L. D. Wise et al's Cones 1, se se sw 11-1n-10w, fsg 2150 ft. Frank Scott's Kuntz 1-A, cse ne se 21-4n-11w, dr 860 ft. Kennedy & Musgrove's Conway 1, nw nw nw 3-3n-10w, 1oc abd.

COTTON COUNTY—Phillips' Warren 1, ne ne se 1-5s-13w, dr 2500 ft. Grace-Wood Drlg Co.'s Wilson 1, csw nw 17-4s-11w, dr 880 ft.

GARFIELD COUNTY—Ohio's McFarland 1, se se se 25-24n-3w, dr 2000 ft.

GARVIN COUNTY—Ellison & Hammond's Selby 1, cnw nw 24-2n-3w, dr 3115 ft. Pure's Baker 1, se se ne 7-2n-1e, dr 4408 ft. Luttrell et al's Howell 1, nw se nw 34-1n-1e, new contract.

GREER COUNTY—Nelf et al's Melton 1, cse nw se 16-3n-22w, to test. Bud Lewis et al's Webster 1, sw ne ne ne 7-7n-24w, spd mach.

HUGHES COUNTY—T. P. McAdams & Barnes' Koch 1, sw ne ne 1-9n-10e, dr. 3734 ft. R. K. Ellison's Peters 1, se nw se 8-6n-10e, dr 2320 ft. Mid West Oil Co.'s Turner-Lucas 1, cse nw 13-9n-9e, dr 860 ft.

JEFFERSON COUNTY—Red River Oil Co.'s Trout 1, se ne ne 6-8s-7w, abnd 2202 ft. Pearson's Douthitt 1, ne ne ne 24-6s-9w, fsg. Mid-Continent's Reid 1, csw nw 32-6s-4w, dr 1177 ft. Massad & Swansberger's Barrett 1, ne se se 14-6s-6w, td 21 ft, sd.

JOHNSTON COUNTY—Patten et al's McCrummens 1, sw sw ne 16-1s-6e, dr 388 ft.

KAY COUNTY—Max Kelley's Johns 1, nw nw nw 35-27n-4e, dr 2305 ft.

KIOWA COUNTY—Argus Pet Co.'s Osbourne 1, nw nw ne 9-7n-16w, fsg 1225 ft. J. M. Young et al's Cooke 1, ne ne nw 33-2n-16w, td 677 ft., D & A.

LeFLORE COUNTY—McGraw et al's Tidwell 1, cnw se 17-3n-22e, dr 2285 ft.

LOGAN COUNTY—Anthony & Marshall's Fruin-Eckman 1, se se sw 4-16n-1e, co 4958 ft. Helmrich & Payne's Hasler 1, nw nw se 14-16n-4w, dr 4945 ft.

LOVE COUNTY—Sinclair Prairie's Stockton 1, se se sw 26-6s-2w, td 6927 ft., rust.

MARSHALL COUNTY—Magnolia's Gardner 1, cne ne nw 34-6s-6e, dr 1240 ft.

McINTOSH COUNTY—Stanolind and Ramsey's Tiger 1, nw nw sw 13-9n-15e, dr 4541 ft.

MURRAY COUNTY—Hernsby & Jones' Sadler 1, ne ne nw 20-1n-2e, td 2674 ft. Power Oil Co's Lancaster Trust Co. 1, csw ne 10-1s-2e, shut in for test. Russell's Fee 1, se nw se 9-2s-3e, rig mach.

Noble County—Shell et al's Moelling 1, csw nw 31-21n-2w, dr 4092 ft.

OKFUSKEE COUNTY—Harvey Oil Co.'s Stewart 1, ne ne ne 28-10n-9e, sd.

OSAGE COUNTY—Chavalier & Simon's No. 1, se se se 24-23n-9e, sd 1950 ft.

PAWNEE COUNTY—Forest Dev Corp.'s Otter 1, cne nw 15-21n-5e, rur.

PITTSBURG COUNTY—Oklahoma Dist Co.'s Beeler 1, ne ne sw 7-7n-14e, dr 3752 ft.

PONTOTOC COUNTY—H. H. Diamond et al's Fee 1, se se se 30-5n-8e, set 5-in csg 1046 ft. Caloma Oil Corp.'s Brentz 1, se ne sw 4-1n-6e, sd 503 ft.

SEMINOLE COUNTY—A. I. Spears' Keaton 1, nw nw nw 6-5n-8e, rig. Riverland O & G Co.'s Goebelt 1-A, nw se se 12-6n-6e, rig.

STEPHENS COUNTY—Ed Parson's Olson 1, csw sw 21-2n-8w, swbng to test. T. M. McCasland's Hildebrand 1, sw sw ne 1-3s-1w, sd 4601 ft. Coline Oil Co.'s Johnson 1, csw se nw 1-2n-8w, dr 3980 ft. Edward's Frederick 1, ne se nw 31-2n-8w, dr 600 ft. John Cohen's Pierce 1, cne nw 24-2s-6w, der.

TEXAS COUNTY—Allison & Barnhill's Bingley 1, sw sw ne 30-2n-18ecm, dr 1575 ft.

TILLMAN COUNTY—Beal & Toler's Magell 1, se se se 18-1n-16w, mom. Eugene Skinner's Oliver 1, se se nw 22-1s-15w, sd 1253 ft. I.T.I.O. Co.'s Drumm 1, csw nw 32-2s-17w, cor.

WASHITA COUNTY—McWhirter et al's Fee 1, sw sw sw 34-8n-19w, td 1562 ft., sd.

WEST TEXAS

ANDREWS COUNTY — Grisham-Hunter Corp.'s Ratliff-Bedford 1, c nw¼ sec 24, blk 73, PSL sur, elev 3254 ft, top anhydrite 1554 ft, top salt 1585 ft, dr by junk 3711 ft. Wm. F. Hanagan-R. H. Blakeney et al's C. W. Logsdon-Amerada 1, c sw¼ sec 5, blk A-32, PSL sur, sd 100 ft, rur. R. H. Henderson et al's J. E. Parker-Shell 1, Jas. Hobelis sur, blk 111, top anhydrite 1760 ft, top salt 1865 ft, lime pay 4490-4555 ft, shot 660 qts nitro, est. 250 bbls oil daily, fsh tubing. Humble's R. M. Means 9, ne¼ sec 3, blk C-45, PSL sur, top lime 3945 ft td 4554 ft, set 5½ in cas; J. S. Means 11, c se se sec 12, blk A-35, dk. Sun Oil Co.'s J. S. Means 1-B, c se nw sec 22, blk A-35, PSL sur, elev 3162 ft, top anhydrite 1965 ft, top salt 2085 ft, top lime 4190 ft, td 4300 ft, dr plugs. Sinclair Prairie's W. F. Cowden 1, se c se¼ sec 12, blk 44, T&P sur, T-2-N, lcn. J. W. Tripplehorn et al's Jessie Brown 1, sec sec 7, blk A-46, PSL sur, elev 3205 ft, top anhydrite 1670 ft, top salt 1695 ft, top Yates sand 2972 ft, cem 7-in cas 4022 ft.

BREWSTER COUNTY—Floyd C. Dodson et al's Texas American Synd. 1-A, c ne ne sec 66, blk 10, GH&SA Ry, sur, elev 4228 ft, top Deleware shale 2297 ft, fsh 3690 ft. Tony Hess et al's Mrs. M. Decie 1, sec 7, blk 1, Georgetown RR Co., sur, testing water shutoff, td 450 ft.

COCHRAN COUNTY—Honolulu Oil Corp.-Cascade Pet. Co.'s Duggan Bros. 1, c labor 13, league 55, Oldham County School Lands, elev 3693 ft, top anhydrite 2210 ft, top salt 2405 ft, top Yates sand 2910 ft, top lime pay 5025 ft, sul w 5080-5098 ft, pb to 5068 ft, shot 160 qts nitro at 5019-5060 ft, flows 100 bbls 32 gravity oil daily, running tubing.

COKE COUNTY—Homer E. Ogden et al's E. C. Rawlings 1, swc sec 391, blk 1-A, H&TC Ry. sur, lcn.

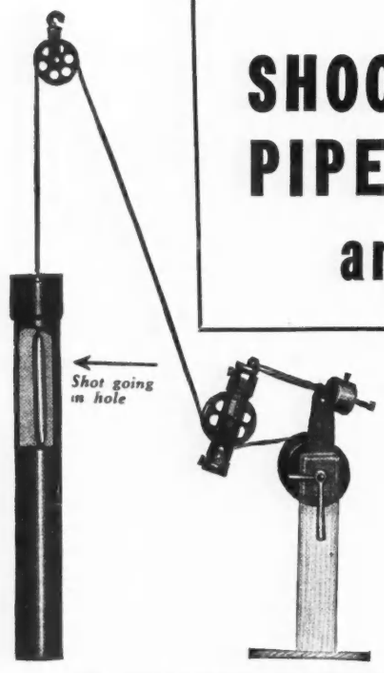
CRANE COUNTY—American Liberty Oil Co.-Truett Cranfill's J. B. Tubb-Humble 3, nwc s½ sec 11, blk B-27, PSL sur, cem cas 510 ft. Big Basin Pet. Co.'s Jax Cowden 1, nec nw ne sec 77, blk X, elev 2456 ft, top salt 548 ft, td 3027 ft, running 6⅝-in cas. Gulf Oil Corp.'s M. B. McKnight 2, c ne¼ sec 9, blk B-21, PSL sur, top anhydrite 416 ft, top salt 585 ft, td 3702 ft, bailed 210 bbls oil and 223 bbls water in 40 hrs; W. N. Waddell et al 2, c ne sw sec 18, blk B-21, PSL sur, elev 2620 ft, top sand 1620 ft, top Simpson lime series 5995 ft, top Ellenberger lime 6507 ft, tested sul w at 6590-6709 ft, pb to 6287 ft, cem 7-in cas 6090 ft, testing. Gulf & T. B. Cranfill's J. B. Tubb 3, sec sec 9, blk B-27, PSL sur, elev 2533 ft, top salt 540 ft, top lime 2460 ft, dr 3300 ft. Humble's J. B. Tubb 4, swc nw¼ sec 10, blk B-27, PSL sur, used 3000 gals acid, td 4420 ft, initial 821 bbls; Tubb 5, nwc sec 11, blk B-27, dr 520 ft. Loffland Bros. et al's J. B. Tubb-Gulf 2, sec n½ sec 9, blk B-27, PSL sur, elev 2551 ft, sd 4650 ft. John I. Moore et al's T. C. Barnsley 1, c sw¼ sec 43, blk 32, PSL sur, elev 2472 ft, top anhydrite 500 ft, top salt 680 ft, top brown lime 2505 ft, top sulphur water in big lime 4555 ft, base Permian lime 5715 ft, td 6262 ft, sd for 5 3/16-in cas. Sawyer Drl. Co.'s M. B. McKnight 1, sec 11, blk B-17, PSL sur, lcn.

CROCKETT COUNTY—John I. Moore et al's A. C. Hoover 1, sec sec 4, blk "FF", B&B Ry. sur, oil stain 2025-30 ft and 2030-65 ft, dr 2080 ft; Baer-TP Coal & Oil Co. 1, sec 51, blk 1, I&GN Ry. sur, lcn for 2500-ft test. Anderson Oil Co.'s Todd-Southland Royalty 1, sec sw¼ sec 27, blk WX, GC&SF sur, pb fr sul w at 1644 ft to 1620 ft, sd.

JEFF DAVIS COUNTY—H. D. Wilcox et al's Jones-Coffield 1, nec sec 121, blk 4, H&TC Ry. sur, cem sur cas.

DAWSON COUNTY—Ray Albaugh et al's John Robinson 1, c nw¼ sec 46, blk M, EL&RR sur, elev 3085 ft, top salt 1970 ft, top lime 4567 ft, top first lime pay 4958 ft, td 5038 ft, sd with 4000 ft fluid in hole, will pump.

ECTOR COUNTY—Barnsdall Oil Co.'s H. C. Foster 2, nwc sw¼ sec 13, blk 43, T&P Ry. sur, T-2-S, elev 2936 ft, lime pay 4125-4222 ft, shot 400 qts pumped 252 bbls initial. American Maracaibo Co.'s C. Scharbauer 1, swc sec 19, blk 44, T&P sur, T-1-N, dk. Broderick & Calvert, Inc.'s J. L. Johnson 1, swc s½ s½ sw¼ sec 12, blk 43, T-2-S, elev 2969 ft, lime pay 4050-4275 ft, shot 600 qts nitro, initial 611 bbls. Devonian Oil Co.'s C. Scharbauer 1, swc se¼ sec 34, blk 44, T&P Ry. sur, T-1-N, run 7-in cas, td 4001 ft. Empire O&R Co.'s H. E. Cummins 1-C, nec se¼ sec 22, blk 45, T&P Ry. sur, T-1-N, elev 3213 ft, lime pay 4196-4293 ft, used 3000 gals acid, initial 700 bbls; H. E. Cummins 1-D, nwc sw¼ sec 23, blk 45, T-1-N, rur. Grisham-Hunter Corp.'s R. B. Cowden 1, c nw sw sec 10, blk 45, T&P Ry. sur, T-2-N, elev 3302 ft, top Yates sand 2775 ft, top lime 3810 ft, pb fr sul w at 4657 ft to 4430 ft, acidized three times, completed flows 10 bbls oil daily. Humble's W. F. Cowden 1, c nw sw sec 30, blk 44, T-1-N, cem 9-in cas 1470 ft, td 1550 ft. Schermerhorn Oil Corp.'s J. L. Johnson-Amerada 1, sec sec 11, blk 43, T-2-S, dr 3830 ft. Shasta Oil Co. et al's C. Scharbauer 1, swc nw¼ sec 29, blk 44, T-1-N, top anhydrite 1460 ft, dr 2500 ft. Sinclair Prairie's J. L. Johnson 1-A, nec nw¼ sec 42, blk 42, T&P Ry. sur, T-1-S, elev 3005 ft, top anhydrite 1760 ft, top Yates 2870 ft, top lime 2860 ft, dry and abnd 6098 ft. Shell Pet. Corp.'s E. F. Cowden 1, c se se sec 26, blk 44, T&P Ry. sur, T-2-S, top brown lime 3650 ft, top gray lime 3825 ft, lime pay 4180-4355 ft, shot 420 qts 4160-4260 ft, completed flowing 180 bbls oil 12 hrs. Stanolind's E. F. Cowden 2-B, c ne ne sec 10, blk 43, T-2-S, elev 2967 ft, pb from sul w at 4451 ft to 4427 ft, then pb to 4300 ft, shot 333 qts 3960-4050 ft, flows by heads, fsh bailer. R. L. York-O. C. Harper et al's H. C. Foster 1, sec ne¼ sec 13, blk 43, T-2-S, dr by tools 4199 ft; Foster 2, cem 6⅝-in cas 3875 ft; J. D. Slater 1, c nw nw sec 26, blk 45, T&P Ry. sur, T-1-S, elev 3249 ft, top anhydrite 1580 ft, sul w at 4440-4544 ft, dr 4710 ft. York, Harper & Sloan-Zook Co.'s H. C. Foster 1-B, swc sw¼ sec 8, blk 42, T&P Ry. sur, T-2-S, cem sur cas. Weekley Oil Corp.'s E. F. Foster 1, nwc sec 13, blk 43, T-2-S, dr 3400 ft. TP Coal & Oil Co.'s C. Scharbauer 1,



PROVEN:

SHOOTING STUCK PIPE Saves Time and Money!

After 14 years of well shooting experience, I've perfected a method of releasing stuck drill pipe, casing and tubing that is safe, accurate, and economical. By lowering the explosive into the well on a measuring line, the pipe can be shot at any given point. Depth of the shot, temperature or pressure conditions are no obstacle. Call me day or night and save time any money.

W. F. HALL

"WELL SHOOTER"

Phone 354 Goose Creek, Texas

nec sec 31, blk 44, T&P Ry. sur, T-1-N, dr 1900 ft.

EL PASO COUNTY—Tri-State Oil Co.'s Chas. & L. M. Kinkel 1, nec sec 237, S. F. No. 7232, co 2416 ft.

FISHER COUNTY—L. A. Daniel, Tr., and J. B. Rhoads' Mrs. J. R. Nickless 1-A, nec of 81-ac lse, G. W. Lawrence sur, elev 1912 ft, dr 1560 ft. L. A. Long et al's J. L. Mayberry 1, c nw sw sec 56, blk 1, H&TB Ry. sur, dr 1400 ft. Forrest Development Co.'s A. M. Dry 1, near c sw se sec 108, blk 2, H&TC Ry. sur, elev 2087 ft, td 4537 ft, set 3-in tubing to acidize. Southern Oil Corp.'s Joe Robinson 1, near c nw¼ sec 172, blk 2, H&TC sur, lcn.

GAINES COUNTY—Amerada Pet. Corp. et al's S. J. Averitt-Ohio 1-A, c ne ne sec 228, blk G, W. T. Ry. sur, elev 3318 ft, top anhydrite 1959 ft, salt series 2024-2890 ft, top lime 4545 ft, dolomite lime pay 4996-5022 ft, flowing 32 gravity oil with wash water and 5,800,000 ft gas via choke on tubing. Amerada Pet. Corp.'s C. E. Robbins 1, c nw nw sec 9, blk A-22, PSL sur, lcn. Stanolind's Dewey Davis 1, c nw se sec 18, blk A-21, PSL sur, elev 3282 ft, top anhydrite 1956 ft, top Yates sand 2965 ft, sul w at 4991-5012 ft, dry and abd; J. A. Morrow 1, near c sw¼ sec 20, blk A-24, PSL sur, dr 1770 ft.

GARZA COUNTY — Gar-Tex O&G Co.'s Post 2, sec 6, blk 5, K. Aycock sur, td 2822 ft, used 2000 gals acid est. 75 bbls oil daily; Post 3, ne¼ sec 6, mim. Grisham-Hunter Corp.'s Post 1, sec 6, blk 5, K. Aycock sur, dr 1190 ft.

GLASSCOCK COUNTY — Fleetborn Oil Corp. et al's Black Arrow Oil Co. 1, nec 160-ac lse, sec 13, blk 34, T&P Ry. sur, T-3-S, cem sur cas; A. A. Coulson 1, swc 160-ac lse, sec 19, blk 33, T-3-S, cem sur cas. Shell Pet. Corp.'s L. S. McDowell 1, s½ sec 41, blk 34, T&P Ry. sur, T-2-S, lcn. John I. Moore et al's L. S. McDowell 1, ne¼ sec 31, blk 34, T-2-S, lcn

TOM GREEN COUNTY—Spinner Oil Co.'s A. & B. W. Reed 1, swc 137-ac lse, sub-div 39, Collyns Ranch, or Mayson & Perry sur, ur, td 2980 ft. Ray & F. E. Webb et al's J. F. Schrievner 1, nwc 236-ac lse, A. Krending sur No. 1663, sd repairs 660 ft. E. P. Campbell et al's D. B. Horne 1, Washington RR. Co. sur No. 137, sp and sd.

HOCKLEY COUNTY—The Texas Co. et al's Bob Slaughter 1, labor 83, league 38, Zavala County School lands, elev 3560 ft, top anhydrite 2240 ft, top Yates sand 2850 ft, dr by lost 8⅝-in cas, td 3065 ft.

HOWARD COUNTY—G. H. Johnson et al's Hyman-Magnolia 1, sec sw se sec 88, blk 29, W&NW sur, est 10 bbls oil natural, shot 40 qts 1306-1326 ft, sd to pump.

HUDSPETH COUNTY—Costello Oil Corp.'s L. S. Costello 1, swc sw¼ sec 36, blk 70, T&P Ry. sur No. 1879, elev 4075 ft, lcn. Haymon Krupp Oil & Land Co.'s S. J. Thaxton 1, near sec ne se sec 34, blk 74, T&P Ry. sur, Tsp. 6, sd 1980 ft.

JONES COUNTY—Humble O&R Co.'s J. M. Alexander 1, sw part 1127-ac lse, W. C. Walker sur, dr 1610 ft. Chas. Gyr and S. L. Davis' L. E. Clyburn 1, nec 80-ac lse, sub-div 27, H. Millard sur, dr 1235 ft. Thos. D. Humphrey et al's Guitar 1, nwc 80-ac lse, dr 1600 ft. Chas. J. Kleiner et al's Birt Fields 1, S. Andrews sur No. 191, dr 1925 ft. N. H. Martin & Son's Spurrier 2 (160-ac), W. C. Walker sur, 3 mi n Nugent, sd hfw 2135 ft. F. A. Oyster, A. R. Forster, Ungren & Frazier's C. H. King 1, nw part sec 16, N. Scott sur, A-303, hole full salt w 2000-2034 ft, dry and abd. E. A. Ungren & A. J. Frazier's W. Davis-L. A. Stemmons 1, nec 161-ac lse, sec 3, blk 7, F. M. Smythe sur, ur 1505 ft.

LOVING COUNTY—Mason Oil Co.'s Minnie Kyle 2, swc ne¼ sec 20, blk 55, T&P Ry. sur, Tsp 1, dr 1835 ft. Porter Rankin et al's W. D. Johnson 1, nw¼ sec 12, blk 57, T&P Ry. sur, Tsp. 1, elev 2904 ft, top Deleware lime 3119 ft, top sand 3151 ft, td 3214 ft, shot 40 qts 3138-78 ft, sdo.

NOLAN COUNTY—Robinson Drilling Co.'s Ed. Gabler 1, nwc ne¼ sec 26, blk X, T&P Ry. sur, machine.

PECOS COUNTY—Bahan & Rhodes' H. E. Bonebrake 1, sw nw ne sec 111, blk 8, H&GN Ry. sur, elev 2504 ft, top salt 922 ft, top lime 1820 ft, sul w 2007-13 ft, sd; Bonebrake 1-B, w¼ sec 116, blk 8, H&GN sur, dr 1460 ft. R. O. Clark et al's Mrs. E. C. Powell 1, west cor sec 96, blk 10, H&GN Ry. sur, sd 1846 ft. Culbertson, Irwin et al's Iowa Realty Trust 1, sec 73, blk 10, H&GN Ry. sur, sd 1075 ft. A. H. Flaherty & Son's J. C. Cunningham-Sun 1, nwc sw¼ sec 25, blk 11, H&GN Ry. sur, sp and sd. Marion Production Co.'s W. Courtney 5, nwc sec 78, blk OW, T. M. Ry. sur, sd 1378 ft; SW Life Insurance Co. 1, swc sec 73, blk OW, T. M. Ry. sur sd 1425 ft. E. R. Minshall et al's J. B. Baker 1, near c sw nw sec 25, blk 146, T&St.L.Ry. sur, fsh 2815 ft. Stanley A. Thompson et al's Elsinore Cattle Co. 1, se¼ sec 53, blk D, GC&SF Ry. sur, elev 3938 ft, sr, td 3816 ft Tex-Mex Pet. Corp.'s McKee 1, nwc tr 7, sec 24, blk 9, H&GN Ry. sur, elev 2384 ft, sd for cas 2690 ft. Trans-Texas Oil Co.'s C. M. Caldwell 2, near sec sec 27, blk 50, T&P Ry. sur, Tsp, 9, co 1300 ft; F. M. Gallagher 1, nec nw sec 9, blk 51, T&P Ry. sur, Tsp. 10, sd 1260 ft; Popham Ltnd & Cattle Co. 1, se¼ sec 235, blk 11,GH &SA Ry. sur, fsh 1695 ft. Young Pet. Corp.'s Perry 1, nwc ne¼ sec 28, blk 178, T. C. Ry. sur, lcn; Bailey 1, nwc ne¼ sec 23, blk 178, T. C. Ry. sur, sd 510 ft.

RUNNELS COUNTY—Superior O&G Co. et al's Cook Heirs 1, swc 800-ac lse, M. P. King sur No. 436, set 12½-in cas 1515 ft.

PRESIDIO COUNTY—A. H. Main et al's Greenlee 1, near c sw¼ sec 40, blk 347, GC&SF Ry. sur, lcn. Linderman Bros. Oil Corp.'s R. I. Bledsoe 1, swc ne¼ sec 15, blk 351, GC&SF Ry. sur, dr 2505 ft.

SCHLEICHER COUNTY—John M. Cooper et al's Bert Page 2, c ne se sec 40, blk L, GH&SA Ry. sur, lcn. Mangus Oil Corp.'s Judkins-Spencer (Pure) 1, c sw¼ sec 4, GC&SF Ry. sur, blk V-28, or Hooper-Wade sur, blk A, elev 2209 ft, top Ellenberger lime 5902 ft, pb fr sul w at 6527 ft to 5912 ft, used 2000 gals acid showed little high gravity oil, sd to re-acidize.

SCURRY COUNTY—C. W. Guthrie et al's T. E. Sorrels 1, sec sec 101, blk 97, H&TC Ry sur, cem cas, td 1547 ft.

TAYLOR COUNTY—H. Crissman et al's City of Abilene 1, se¼ sec 66, BAL sur, sd 3360 ft. Laurel Dunn & Herman McAlister's M. Bowles 1, sec sw¼ sec 28, B.A.L. sur, elev 1773 ft, sd 1226 ft. Trans-Continental Oil Co.'s Bowles 1, nwc 80-ac lse, sec 26, B.A.L. sur, lcn.

TERRELL COUNTY—Ohio Oil Co.'s M. H. Goode 1, swc se¼ sec 26, blk 161, GC&SF Ry. sur, elev 2405 ft, tested 6, 250,000 ft sweet gas in Pennsylvanian lime 5606-12 ft in Feb. 1931, dr shaley-lime 6975 ft.

TERRY COUNTY—W. L. Pickens, T. Lomax & Maracaibo Oil Explo. Corp.'s J. B. Lewright 1, c ne ne sec 1, blk C-37, PSL sur, rur. Uscan Oil Co.-Illinois Oil Co.'s A. R. Brownfield 1, near c ne¼ sec 54, blk K, PSL sur, elev 3413 ft, dr 4685 ft.

UPTON COUNTY—Moore Bros. et al's D. C. Giddings-Ohio 1, sub-div 25, league 4, Throckmorton County School Lands, dr 450 ft. R. H. Henderson et al's A. Reese, Jr. 1, nwc e½ nw¼ sec 16, blk 3½, CCSDRGNG sur, reaming 660 ft.

WARD COUNTY—Prince Bros. et al's C.

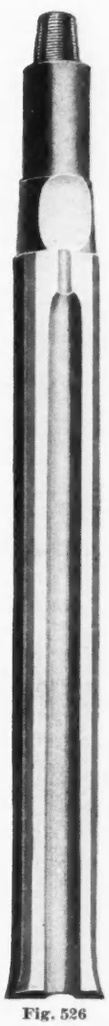


Fig. 526

The Symbol of Quality

The HIGHER STANDARD

for Over 40 Years

Ask the average oil-field worker what Spang's "Higher Standard" trade mark means to him. He'll tell you it stands for three things. Economy! Reliability! Results!

Spang Heat-Treated Bits, Regular or Twisted types, are splendid examples of the high quality that 40 years' experience in precise Cable Tool manufacture makes possible.

If you are seeking lowest drilling cost per foot, specify Spang "Higher Standard" Cable Tools. Write for catalog. Spang and Company, Butler, Pa.

Fig. 524

SPANG

CABLE TOOLS

L. Monroe-California Co. 1, swc e¼ sec 52, blk 34, H&TC Ry. sur, dr by drill pipe, td 2845 ft. A. W. Cherry, D. J. Finley et al's John Sealy Est. 1, nec ne¼ sec 54, blk F, G. & M. M. B. & A. sur, dr 300 ft. C. H. Mahres et al's P. Wilson 1, sec 133, blk 34, H&TC Ry. sur, sd 2705 ft.

WINKLER COUNTY—Emperor Oil Co.'s J. T. Cross 1, nec nw nw sec 4, blk B-10, PSL sur, sd 1210 ft. K. D. Oil Co.'s Pink Mitchell 1, nwc s½ ne¼ sec 23, blk B-10, PSL sur, elev 2814 ft, top anhydrite 1010 ft, top salt 1070 ft, top lime 2525 ft, trace gas 2620-25 ft, dr 2980 ft. Reed & Duffy's John Sealy 1, c ne nw sec 8, blk A, GMMB&A sur, elev 2896 ft, top anhydrite 1010 ft, top salt 1080 ft, top Yates sand 2715 ft, sd 4012 ft.

YOAKUM COUNTY—Texas Pacific Coal & Oil Co.'s Mrs. Ruth Bennett 1, c ne nw sec 678, blk D, John H. Gibson sur, elev 3559 ft, top anhydrite 2393 ft, top salt 2514 ft, dr 3330 ft.

EAST TEXAS

BOWIE COUNTY—Woodley & Bentley's J. D. Lumpkin 1 (245-ac), John McDermott sur, 1¼ mi sw Dalby Springs, elev 290 ft, Annona chalk 1665-2090 ft, dr 4165 ft. Ferguson & Hill's A. Y. Breckenridge 1, Nancy Dycas sur, 4 mi w Texarkana, sp and sd but to dd.

CHEROKEE COUNTY—A. F. Richardson et al's F. P. O'Brien 1 (167-ac), G. S. Clapp sur, 3 mi n by w of Rusk, lcn. General Crude Oil Co.'s Mrs. S. L. Stockton 1 (103-ac), S. Jarboe sur, 3 mi ne Mt. Selman, dr 600 ft. Dr. H. Hancock et al's Mrs. Pryor-Shell 1 (53-ac), J. T. Jones sur, Rusk area, rig.

COLLIN COUNTY—California Consolidated Oil Corp.'s Mrs. W. L. Fagg 1 (38-ac), Jas. Rutherford sur No. 4, elev 626 ft, Georgetown lime 1980-2651 ft, top Paluxy series 2706 ft, td 2771 ft, tested flow fresh water no oil or gas. Port Bolivar Co.'s O. C. Durning-Clarkston 1-A (140-ac), Wm. Creager sur, Pat. 1193, elev 722 ft, dry on dst at 4050-4098 ft, cem 7-in cas 3899 ft; A. Shirley 1 (50-ac), Gwynn Morrison sur, 1 mi e Anna, dk.

DELTA COUNTY—W. S. McGee et al's Mrs. P. W. Miller 1 (52-ac), E. Spencer sur, 1 mi sw Cooper, elev 465 ft, top Woodbine Red Beds 2650 ft, top Georgetown lime 3040 ft, sd 4220 ft.

FALLS COUNTY—J. Edward Mills et al's Sam Grucholski 1 (40-ac), Dennis Herold League, 5 mi sw Kosse, elev 521 ft, Austin chalk 2765-2946 ft. Georgetown lime 3544-3825 ft, top Edwards lime 3867 ft, top upper Glen Rose 4074 ft, sd 4114 ft, may dd to basal Trinity.

FREESTONE COUNTY—Fred R. Lovering et al's E. Bonner-Scott 1 (23-ac), H. Awalt sur, 7 mi n Fairfield, Pecan chalk 2175-2286 ft, top Austin chalk 3117 ft, sd 3700 ft. J. R. Meeker et al's Mrs. D. Wheeler 1 (10-ac), J. Y. Aguilera sur, Red Lake area, lcn. Roger Steward and Velvet Oil Co.'s E. H. Beauchamp 1 (100-ac), E. Greene sur, 4 mi nw Fairfield, elev 374 ft, Pecan chalk 2430-2586 ft, top Austin chalk 3362 ft, cored salt water sand 4121 ft.

GRAYSON COUNTY—Olson Drl. Co.-Jas. H. Gardner & Broswood Oil Co.'s D. R. Utiger 1 (160-ac), P. P. Cady sur, 5 mi nw Denison, elev 722 ft, show o&g in Trinity 860-890 ft, base Trinity series 930 ft, top chert 950 ft, dr chert 1510 ft.

HENDERSON COUNTY — Cosden Oil Corp.'s Mrs. E. P. Miller 1 (1550-ac), Thomas Chaffin sur, elev 451½ ft, top Austin chalk 4440 ft, dr 4560 ft. Wm. McDougal, Tr., et al's Elvira Price 1 (216-ac), M. Matthews sur, 3½ mi s Trinidad, elev 294 ft, Pecan chalk 2100-2390 ft, Austin chalk 3050-3484 ft, sd 3831 ft. S. Sparks, Keeley et al's Theo. H. Berry 1, Aaron York sur, No. 847, 5 mi s Brownsboro, dr 120 ft. L. V. Marmar et al's I. W. Brown 1 (183¼-ac), R. H. Pearson sur, rur.

HOPKINS COUNTY—Empire O&R Co.'s J. E. Worsham 1 (149.36-ac), Alex O. Wetmore sur rur. Walter L. Goldston et al's H. J. Smith 3 (250-ac), Jas. A. Craft sur, lcn. D. S. Hager and W. P. Luse's J. G. Reynolds 1 (200-ac), A. O. Wetmore sur, lcn. Hager-Luse & Russ Pet. Co.'s J. E. Worsham 3 (149.36-ac), A. O. Wetmore sur, elev 433 ft, Pecan chalk 1520 ft, top Woodbine 3132 ft, top Georgetown lime 3680 ft, top Paluxy series 4452 ft, cut fault at 2775 ft, Paluxy pay 4476-4526 ft, flowed 172 bbls oil 3 hrs open tubing, complete; J. E. Worsham 4, elev 443 ft, Pecan chalk 1558-1638 ft, top cut thru fault at 3160 ft Paluxy pay 4471-4537 ft, flowed 166 bbls oil 3 hrs open tubing complete; Worsham 5, dr 1000 ft; Worsham 7, dr 1000 ft. F. D. Jones Drilling Co. et al's Mrs. J. K. Pierce-Gulf 1 (225-ac), Jas. A. Craft sur, lcn.

HOUSTON COUNTY — E. R. Mount, Branch et al's Dr. P. S. Griffiths 1 (136-ac), Frank Johnson sur, 3 mi sw Crockett, sd 914 ft.

HUNT COUNTY—Penn Oil Corp.-Elmer S. and Fox Wood's A. B. Manning 1 (57½-ac), Sally Owens sur, 5 mi ne Lone Oak sur, elev 599 ft, dk.

LAMAR COUNTY—J. A. Forester et al's J. S. Woodward 1 (183¼-ac), J. W. Woodward sur, 1½ mi e by s of Minter, elev 402 ft, top Georgetown 2256 ft, Paluxy sand 3060-3144 ft, top anhydrite 3735 ft, base hard anhydrite 4075 ft, broken to 4105 ft, cemented cas in basal Trinity, cored sand and gravel 5133-5138 ft, coring hard lime 5158 ft. H. Salmon, Lowery & Cutler's E. C. Porter 1 (30-ac), Thos. King sur, 3 mi ne Chicota, dk.

LEON COUNTY — Roth & Faurot O&G Co.'s J. L. Shaw 1 (254-ac), O. R. Reams sur, 5 mi n Centerville, dr 2900 ft. H. M. Ogg et al's O. Wiley 1, E. Devinney sur, 1 mi w Buffalo, dk.

NAVARRO COUNTY—Calto Oil Co.'s Etta Black 1 (160-ac), B. G. Balthrope sur, 1 mi sw Bazette, lcn abnd. Phillip S. Groginski et al's S. P. Love 1 (128-ac), Richard Goad sur, A-33, 3½ mi sw Corsicana, elev 422 ft, Austin chalk 1153-1525 ft, top Woodbine 1918 ft, Georgetown lime series 2270-2463 ft, top upper Glen Rose 3160 ft, stringer anhydrite 3875-3937 ft, dry and abd in lower Glen Rose 4223 ft.

RAINS COUNTY—Humble O&R Co.'s O. L. J. Easter 1 (39¾-ac), R. Hotchkiss sur, 4½ mi e Emory, 7600-foot Trinity test, elev 438 ft, Pecan chalk 2177-2862 ft, fsh 4750 ft.

RED RIVER COUNTY—J. S. Abercrombie Co.-Harrison Oil Co.'s Southern Pine Lumber Co. 3 (392.37-ac) D. D. Bruton sur, 10 mi ne Clarksville, dr 1650 ft. Roy I. Carter Drl. Co.'s J. A. Tutt 1 (40-ac), Dennis Harty sur, lcn. Carpenter Oil Corp.'s R. E. Anderson 1 (100-ac), S. W. Sims sur, 3 mi n Clarksville, top Red Beds 1250 ft, dr 1260 ft. T. J. Farrington et al's W. T. Morris 1 (351-ac), Joseph Guest sur, 1 mi s Detroit, elev 478 ft, sd 1200 ft. M. Petroff et al's R. C. Morris 1 (176-ac), Joseph Guest sur, 2 mi w Detroit, sp and sd. Dale Sneed, R. H. Manning and Texfornia Co.'s Hooker-Hughes 1 (80-ac), MEP&P Ry. sur No. 642, 6 mi sw Lydia, elev 307 ft. Pecan chalk 995-1302 ft, top Austin chalk 2018 ft, sd 2720 ft.

ROBERTSON COUNTY—J. Edward Mills et al's Tony Congelosi 1 (75-ac), Geo. A. Nixon sur, 3½ mi sw Hearne, fsh drill pipe 2250 ft.

RUSK COUNTY—John W. Merritt et al's J. A. Stallings 1 (47-ac), Thos. Uzzell sur, 2½ mi s Eastex field, ¼ mi sw Pleasant Grove, elev 360 ft, Pecan chalk 2680-3015 ft, top Austin chalk 3700-3868 ft, top Woodbine 3881 ft, td 3922 ft, in salt water, dry and abd.

SMITH COUNTY—W. L. Cloud et al's Dora Kendall 1-A, John Williams sur, 1¼ mi se Jamestown, crooked hole, td 2000 ft.

UPSHUR COUNTY—B. L. Watson et al's W. O. Irwin 1, D. R. Cannon sur, 3 mi ne Coffeyville, lcn.

WOOD COUNTY—G. W. Nix et al's Mrs. E. A. Russell 1, John Delap sur, 4 mi w Golden, sd 600 ft.

EAST TEXAS BORDER COUNTIES

HARRISON COUNTY—Hanover, Bergendoll et al's Buchanan 1, Wm. McIlvain sur, sd 4222 ft., H. H. Roberts et al's Zion Douglas 1, L. S. Field sur, woc 10-in csg 43 ft. Weiss et al's W. L. Rudd 1, Wm. Steele sur, lcn.

MARION COUNTY—Tom Bell's Carrie Moseley 1, David Lane sur, 12½-in csg 72 ft., sd 500 ft., M. H. Overles et al's Lizzie Henderson 1, R. Bennington sur, spd 13⅜-in csg 239 ft., dr 300 ft.

PANOLA COUNTY—Glassell & Glassell's (formerly carried A. C. Glassell et all), Frost Lbr. Co. 1, Mary S. Potts sur, elev 216 ft., using gas to drill nearby wells, td 6002 ft., Williamson 1, H. Coleman sur. dr. 2950 ft. shale & lime. Danciger O&R Co.'s J. W. Tatum 1, Alfred Bissell sur, sd 21 ft. Lawler Pet. Co.'s C. T. Becknell 1, Bailey Anderson sur, dr 3350 ft. White Goodwin Synd's Hill 1, Winny Mann sur, rur. Logansport P. L. Co.'s Rushing 1, Mannan Smith sur, 7-in csg 2477 ft., acidized td 2734 ft. Magnolia Pet. Co.'s E. A. Hull 1, Thos. Applewhite sur, elev 232 ft., top Georgetown 2395 ft., top massive anhydrite 4659 ft., dr 5044 ft. Motex Oil Co.'s J. M. Furrh 1, Thos. M. Alstone sur, top chalk 1575 ft., woc 95⅝-in csg 2460 ft. Yandell Rogers' Cameron Lbr. Co. 1, Wm. A. Lagrone sur, lcn.

SHELBY COUNTY—Rubeling & Potter's O. H. Polley 1, Wm. Whisner sur, arr deepen td 4200 ft. Red Wing Oil Co.'s C. H. Herton 1, J. Dowling sur, fsg 1888 ft. Mulroy & Curtin's C. Hayden 1, D. F. T. Yordt, sur, co to deepen 2907 ft. H. A. Stebbinger's Pickering Lbr. Co. 1, C. E. Henry sur, si, td 5029 ft., oolitic lime. Pure Oil Co.'s J. L. Smitherman 1, S. O. Pennington sur, mim. Wm. Redditt's Pickering Lbr. Co. 1, Stephen English sur, rur (6000 ft. test).

SOUTH TEXAS

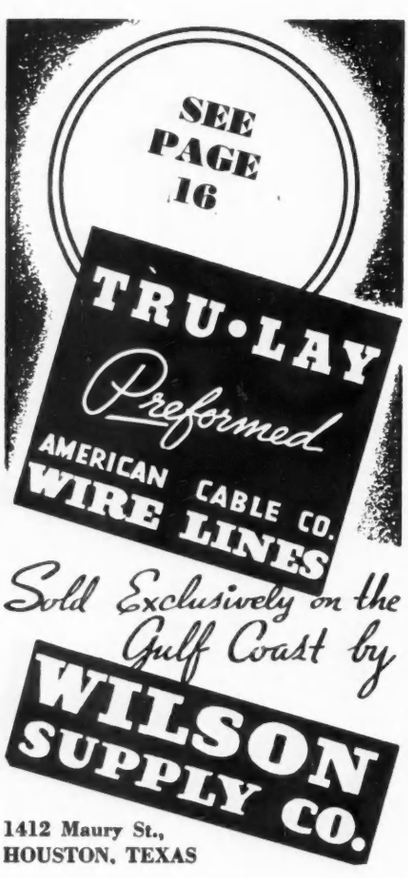
ATASCOSA COUNTY—Frontier Oil Co.'s Oppenheimer 1, 193.4-ac tr, J. Sharp sur No. 518, 6 mi s Lytle, prep to sp. Helvetia Oil Co.'s Susie Pratt 2, 176-ac tr, F. De la Garza sur, Anchorage prospect, ¼ mi se Pratt 1, dr 2986 ft, hard Taylor, oil sand 2398-2424 ft. L. G. Priest, Tr.'s John Sanders 1, 117.61-ac tr, J. P. Garman sur No. 1189, sd 40 ft. Rogers & Rogers' B. McLain 1, 84.8-ac tr, V. Trevino sur 79, 4½ mi s Somerset, one mile s Somerset field, td 2013 ft, pb td 1714 ft, sdy sh and sd 1620-92 ft, 7 in cas 1620 ft, 200 ft oil in hole, prep to pump.

BASTROP COUNTY—Joe E. Mills' Chas. W. Eskwe 1, Samuel Wilfenberger sur 18, Hilbig area, dr 2904 ft, top Austin chalk 2865 ft. Lee F. Ross et al's J. O. Caldwell 1, 1500-ac tr, J. A. Navarro sur, 10 mi w Bastrop, sd 2438 ft for csg, top Austin chalk 1890 ft, crevice 2435 ft. Paul C. Teas' Clement Vinklarek 1, 100-ac tr, A. Millet league, 10 mi s Smith Villa, dr 6925 ft, lime.

BEE COUNTY—Devonian Oil Co.'s Manning 2, J. Poitevant sur 1, 5 mi w and slightly s Mineral, 1600 ft nw No. 1, abnd 3593 ft, top Pettus 3533 ft. Humble Oil & Ref. Co.'s Mrs. M. M. McKinney 9, L. C. Randolph sur, 1¾ mi se Pettus, abnd 4141 ft, W. C. McBride, Inc.'s Theo. Plummer 1, F. J. Chessman sur, sec 33, Plummer sub, Plummer area, dr 2560 ft. Miller-Donzis Oil Corp.'s A. M. Holzmark 1-B, Foley, 135-ac tr S. May sur, 1200 ft nw Holzmark 1, Foley area, spud in.

BEXAR COUNTY—Algra Oil Co.'s Edward C. Peters 1, Miguel Gotari sur 5, sec 4, 13 mi se San Antonio, sd 670 ft for pipe. American Gas Co.'s Oliver 5, 400-ac tr, M. F. Rodriguez sur, Gas Ridge, dr 3285 ft, lime. Albert Chmel's Theresa McIntosh 1, 274-ac tr, J. W. Garrity sur No. 19, ¾ mi sw Kirby, ru, prep to sp. Mayers & Smith's H. E. Bass et al 1-A, 73.5-ac tr, F. A. Ruiz sur 47, 40 ft n No. 1, near Medina river, mi se Von Ormy, dr 1070 ft, 6⅝ in cas lowered to 980 ft. Raymond Pulliam's E. J. Lamm 2, 914-ac tr, E. Frobese sur, near Elmendorf, dr 2557 ft, lime. J. O. Williams' C. Hoch Est. 1, 300 ft n Nelson road, 600 ft wl 157-ac tr, J. M. Baerrera sur No. 58, 1¼ mi n Von Ormy pool, mim. Woodward & Hardie's R. W. Devilbiss 1, John Devilbiss sur, 1 mi s Thelma, still sd 2284 ft. Woodward, Hardie & Herrold's Herman Sons 1, 20-19-ac tr, Henry Pace League sur 37, tr 9, Swearingen, Cassin & Taylor subd, 28 mi s San Antonio, dr 75 ft.

BROOKS COUNTY—The California Co.'s Mestena O&G Co. 1, Alta Mesa area, B. Garcia tr 5, La Mestena de Gonzalina gr, dr 2457 ft; B. Garcia 3-2, 1395 ft nl, 330 ft wl Tr No. 3, La Mestena de Gonzalena gr, Alta Mesa area, dr 310 ft. Douglas & Burden, Inc.'s H. A.



Faller 1, C. M. Laughlin sur No. 434, Alta Verde, 1½ mi se prod, dr 450 ft. Magnolia Pet. Co.'s Ed Lasater 1, S. Korkill sur No. 440, 9 mi w Falfurrias, coring 5095 ft.

BURLESON COUNTY—M. R. Exploration Co., Inc.'s J. M. Fountain 2, 936-ac tr, W. Raleigh sur, blk A-47, 12 mi ne Caldwell, dr 6460 ft. Red Bank Oil Co.'s Nellie Gramm 1, Eliza Santef sur, abt 2500 ft nw of Co.'s Gramm 1, 7 mi w Creisman, td 5932 ft, set 7 in csg 3900 ft, dd.

CALDWELL COUNTY — Brown Drilling Co.'s W. J. Pope 2, Salt Flats area, 134-ac tr, John D. Rains sur, 8 mi se Lockhart, 500 ft e Pope 1, lcn; G. M. Blackwell 1, 800 ft nl, 225 ft wl, 409-ac tr, John Roe sur, 1500 ft w Grayburg's Blackwell 1, 7 mi sw Lockhart, mim. J. G. McKenzie's J. M. Pierce 1, S. Seal league, s of Luling, Dunlap area, sd 160 ft.

DUVAL COUNTY—Benedum & Trees' Clara Driscoll Sevier 1, 6039-ac tr, Palo Blanquita gr, 2 mi ne Realitos, dr 6660 ft. Mills Bennett's Ira Yates 3, sec 317, 4 mi se Labbe field, Govt Wells 3149 ft; Ira G. Yates 4, 330 ft nl and wl, sec 467, 3 mi e Labbe field, sp. Frank Buttram's (H. H. Coffield et al), N. L. & L. Co. 1, sur 102, 5 mi nw Eagle Hill, near McMullen County line, abnd 2168 ft, top Pettus 2156 ft. N. V. Duncan's Worden & Drought 1, 1750 ft el, 870 ft nl, GC&SF sur No. 151, just nw discovery Charamousca field, dk. Gilcrease Oil Co. & Tom Graham's M. S. Escobar 1, blk 4, sec 2, 829.5-ac tr, Juan Jose Manuel de la Garza Falcon gr, Buffalo, Tex., subd, 2 mi sw Premont area, dr 2645 ft. F. A. Gillespie and Sons' Edwardo Perez et al 1, 160-ac tr, San Diego de Ariba Grant, 3 mi w of San Diego, dr 5025 ft. W. L. Goldstone et al's J. F. Welder heirs 1, s¼ sur 217, 2 mi e of n end of Loma Novia field, dr 2900 ft. Humble Oil & Ref. Co.'s V. Kohler 52-A, 990 ft nl and el M. Gussett sur No. 164, n portion Kohler field, Mirando sand 2613-42 ft, set 5 in csg on bottom, perforate and cleaning into pits. Lipscomb & Daubert's W. R. Peters 1, sur 321, 2¼ mi e Lopez field, abnd 2672 ft, top Pettus 2630 ft. McCandless & Cloyes' J. D. Sutherland 1, sec 126, 8000 ft e Sarnosa field, dr 2890 ft. Albert Plummer et al's Herman Danmier 1, ne¼ sec 58, in Copeta Garden Tracts, addn No. 4, 9 mi s Realitos, set 10 in csg at 64 ft, woc. Rio Bravo Dr. Co.'s W. R. Peters 1-C, sur 398, 1¼ mi nw Rancho Solo field, comp 75 bpd via artificial lifting device, sand 1795-1805 ft. Rogers & Rogers' E. J. Rogers 1, sh 2, El Mesquite gr, 2000 ft sw disc, El Mesquite area, abnd 3300 ft. W. L. Wollett and M. D. Masten's Bishop Duval Land Co. 1, se¼ sec 74, 1¾ mi w Hoffman field, lcn.

EDWARDS COUNTY—Plateau O&G Co.'s Mrs. R. L. Hatch 1, J. W. May sur, sec 66, HE&WT RR sur, dr 2695 ft.

FRIO COUNTY—Amerada Pet. Co.'s Halff & Oppenheimer 7, B. J. Gilman sur, Pearsall, dr 5231 ft; Halff & Oppenheimer 8, San Antonio Ditch Company sur No. 1104, Pearsall, dr 265 ft. Thornton Davis et al's Halff & Oppenheimer 1, John C. Clare sur 336, 1 mi e Pearsall chalk production, td 5618 ft, shot with 350 qts at 5388-5618 ft, flowed 130 bbls day, waiting to acidize.

GOLIAD COUNTY — Felmont Corp.'s W. Hoff 1, 75-ac lease, BS&F sur No. 7, 3000 ft se Maetze field disc well, dr 920 ft. Sun Oil Co.'s Lena Fromme 1, L. A. Maetze sur, 10 mi n Goliad, dr 4825 ft.

GONZALES COUNTY—M. S. Holliday et al's T. G. Edwards 1, W. W. Pace 1/3rd league, blk "A", Holliday subd, 3 mi sw of Cheapsides, sd 932 ft to change drawworks. Reedy & Tull's J. F. Bozka 1, B. McClure sur, s of Dilworth, co to dd from 2200 ft. H. H. Weinert (Marts & Beavans') Martindale 1, J. Robinson sur, near Ottine, dr 1100 ft.

GUADALUPE COUNTY—R. S. Byrd et al's Mrs. Jahns 1, 100-ac tr, Green DeWitt sur, S. Darst Creek, ru. Louis Crouch et al's Mary E. King 1, ¼ mi se Zoboroski area, 80-ac lse, J. D. Clements sur, ru and sd. Chas. Culver et al's Wm. Vorphal 1, Geo. W. Edwards sur 56, 4 mi se New Berlin, td 2525 ft, top Edwards 2516 ft, set 7 in cas 1910 ft, oil show 1910-34 ft, dr plugs, wait on swab. Detroit Texas Dev. Co.'s W. T. Carter 1, 300-ac tr, 1 mi sw San Marcos river, 2 mi ne Sullivan, td 2356 ft, set 7 in csg 2065 ft, woc. W. J. Dobbs et al's Gus Jahns 1, 100-ac lse, J. K. Davis sur, ½ mi ne S. Darst Creek prod, dr 1750 ft. Jim Harper et al's L. C. Koepp 1, New Berlin area, 95.35-ac tr, Vicente sur 7, 75 ft sw Dixie Oil Co. abnd test, sp and sd at 20 ft, dropped until work resumes. F. P. Hynes et al's H. A. Linne 1, 224-ac tr, A. Reese sur, 12 mi se Seguin, abnd 1840 ft, top Edwards lime 1769 ft. Long & Ross' Ed Feliz 1, 1½ mi s fr New Berlin, 75-ac tr V. Duran sur, sd 570 ft. Gordon MacKenzie's O. D. Halm 1, 197 ft nl, 150 ft wl ne 40-ac 331-ac tr, J. Kent sur, 2 mi s Kingsbury, lcn subject to correction, spud in. Riddle Oil Co.'s E. Nolte et al 1, J. Sowell sur, 6 mi e Seguin, sd 1880 ft, 6⅝ in cas 1780 ft.

HAYS COUNTY—R. D. Kelly's W. P. Donalson et al 1, 105-ac tr, J. Vermandi gr, 1½ mi ne San Marcos, no rept.

HIDALGO COUNTY—Earl C. Hankamer et al's Frank Rabb 1, of 511-ac tr, Laguna Seca League, 5 mi sw Linn, 12 mi nw Edinberg, may dd from 5500 ft. McCollum Exploration Co.'s John C. Engelman, Jr. 1-B, lot 8, sec 259, Tex-Mex Ry. sur, La Mestina gr, 1½ mi se Pantana gasser, ru; James McDougall 1, lot 223, blk 1, La Blanca tr, 1½ mi s Pantana gasser, set 1200 ft 12½ in csg, wocs. H. J. Porter et al's Sweeny Est. 1-A, lot 1, Wayne Wood subd No. 1, 6 mi sw Donna, dr 1150 ft. Union Sulphur Co.'s ARGI&L Co. 10, blk 50, tr 2418, N. Capisallo dist., Mercedes area, td 8306 ft, cutting out ds, abt 6000 ft.

JIM HOGG COUNTY—J. H. Meek, Jr.'s Martinez Est. 3-A, sec 623, 1320 ft w Colorado field discovery, ru. Pan-Ultimo Oil Co.'s (Theo Hicks et al) Kohler 1, blk 9, Noriacitas gr, 3 mi nw Hebbronville, dr 3415 ft. Locke Purnell & Gifford Oil Co.'s C. O. Gallagher 1-B, 40-ac tr, Randado gr, blk 190, Pippin subd, 4½ mi se Randado, coring 3550 ft.

KARNES COUNTY—R. L. Barnett's Fee 2, Alex Hunter sur, 4½ mi ne Karnes City, 800 ft se No. 1, sd 2500 ft. De Graffe & Reele's Cochran 1, McConnell League (10 ft fr abnd well), 5 mi ne Riddleville, sp and sd. H. H. Weinert, Inc., Porter 1, Victor Blanco grant, ru and dr water well.

KERR COUNTY—S. W. Forrester's J. W. Bailey 1, 333 ft el, 1280 ft nl of A. L. Starky sur No. 408, 3 mi n Ingram, dr 450 ft, lime.

KIMBLE COUNTY—Wilcox Oil & Gas Co.'s Hugh Spiller 1, sec 15, Brooks & Burleson sur, ab 80, abnd 3295 ft.

KLEBERG COUNTY—Clark et al's Kivlin 2, blk 8, sec 39, KT&I subd, sd 2332 ft, sand 2320-32 ft.

LAVACA COUNTY—Universal O&G Co. & Glaspie's Schubel 2, 100-ac tr, C. Fitzgerald sur, 1100 ft ne No. 1, 2 mi nw Yoakum, sd 2050 ft. Willshire Union Oil Co.'s Albert Pohl 1, 120-ac tr, M. Wooten sur, 7 mi nw of Ezzell, dr 1140 ft.

LASALLE COUNTY — Kennedy & Johnston's Gilmer & Wildenthal 1, 140-ac tr, sur No. 283, Santenis Carrasco sur 28, 8 mi se Cotulla, dk. W. H. Vernor's M. G. Jeffries 1, sec 726, HE&WT RR sur, 10 mi se Artesia, sd 850 ft.

LEE COUNTY—Eleoussa Oil Co.'s Ira Sanders 1, 102-ac tr, J. Von Roeder sur, dr 850 ft. James E. Pederson's C. A. Turner 1, D. Hudson sur, 1½ mi se Tanglewood, td 6560 ft, pb 4644 ft, milling out casing 4634 ft to sdtr and dd.

LIVE OAK COUNTY—J. H. Durbin's J. P. Marbach 4, 429-ac tr, Stephen Hays sur, 2½ mi sw Whitsett, td 917 ft, re-cemented, dr plugs. Loma Oil Co.'s O. M. Withers 1, 330 ft nl and wl of tr, Sparks sur, 3 mi n of Jacob field, mim. Ohio Fuel Supply Co.'s H. I. Rosebrock 1, Louis Romero sur, ne Oakville field, dr 862 ft. Roundtree & Posey's Turner & Toland 1, S. Hays sur, sw of Whitsett, abnd 970 ft. Sun Oil Co.'s J. G. James 1, 1258.3 acre, Patrick McGloin sur, ab 28, 1½ mi w Mikeska, dr 2390 ft.

MAVERICK COUNTY—J. W. Boucourt's Edson & Estrada 1, James Eaves sur 68, 12 mi n Eagle Pass, sd 590 ft. Rio Dev. Co.'s Winchester Kelso 1, 297-ac tr in sur 2, 3 mi n Eagle Pass, sd 1000 ft.

McMULLEN COUNTY—Humble O&R Co.'s H. C. Edrington 1, sec 57, AB&M sur, 6 mi ne Seven Sisters, dr 1420 ft. L. D. Ormsby's J. W. Griffith 10, B. Sparks sur, ab 794, td 940 ft, set 5 3/16 in 930 ft, sand 930-40 ft, test sw and recement.

MEDINA COUNTY—Joise Oil Co.'s Medina Irrigation Farms 1, lot 1, blk 32, sec 7, Medina Irrigated farms sub, 1½ mi e of Devine, td 140 ft, move in rotary to dd. R. P. Whitfield's W. B. Odem 1, Henry Castro sur No. 177, ne of Taylor field, dr 513 ft. C. Whitting et al's Hondo Nat'l Farm Loan 2, sec 214, Geo. Studer sur, ½ mi ne Hondo, 4 mi se Hondo, sp. Will A. Wycoff's T. J. Bendele 1,

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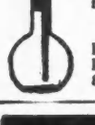

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321.5 ac tr, James Barnhart sur 593, ab 1733, 8 mi s D'Hannis, below 300 ft.

MILAM COUNTY—J. C. Kilgore's S. W. Law et al 1, 606-ac tr, S. Wilhelm sur, 3½ mi w Minerva, lcn. W. R. Ritchey's Chas. McDermott 1, J. R. Cockrill sur, 6 mi e Cameron, sd 50 ft.

NUECES COUNTY — A! Buchanan and Blanco Oil Co.'s W. S. Gandy 1, 330 ft sl and wl e½ sec 60, George H. Paul sub, e offset Hinds' Sevier, lcn. Fearis & Cosner's Myrtle L. Stockton 1, ne/4 sec 25, Laureles Farm Tracts, Ramon de Ynojosa sur, 12 mi sw Corpus Christi, dr 4325 ft. Hiawatha Oil Co.'s Mrs. N. J. Griffith 6, Frank sur No. 416, Saxet, ds stuck 6408 ft, trying to cut out, sand 6303-18 ft, test 750 lbs 100 ft of 50 gr oil, 3½ min. W. L. Hinds' Clara D. Sevier 1-A, sec 60, Paul subd, Driscoll Ranch, 65 ft se No. 1, 2 mi w Clara Driscoll field, td 6000 ft, approx depth, sand 5701-30 ft, running 5 in csg to test. H. S. Moss et al's R. H. Coleman 1, 330 ft nl and wl of 320-ac tr, sec 206, Bishop sub, Palo Alto gr, s of Agua Dulce field, lcn. Steve Paul et al's Annie T. Smith 1, 330 ft sl and el blk 27, sec 38, Flour Bluff and Encinal Gardens, ¾ tr, 3½ mi s Flour Bluff field, lcn. Renwar Oil Co.'s W. F. Willoughby 1, 3500 ft se of n cor 860-ac tr, and 330 ft w of Petronilla crk, sec 4-G, Garrett sub, Petronilla Singer sur, 5 mi se Driscoll, dk and lay gas lines. Richardson Petroleum Corp.'s Maggie Harrell 2, blk 33, Shepherd Farm lots, 2 miles ne 6300 ft prod in Saxet field, td 6356 ft, sand 6319-44 ft, perforate casing 6326-35 ft, 12 shots, comp flowing ungauged quantity 50-gr oil, ⅛ in ch, tubing 1800 pounds, casing 2400 pounds. G. M. Richardson et al's R. S. Carter 1, nw¼ of sec 8, Laureles Farm tr, 8 mi s CC and 2 mi se London, dr 4635 ft. Seaboard Oil Corp. & J. Allen's J. D. Chapman et al's 1, sec 80, Laureles Farm tr, Rincon de Corpus Christi gr, 17 mi sw Corpus Christi, sd 3915 ft, dr water well. Texon Dr. Co.'s Clara D. Sevier 1, 880-ac tr, W. W. Chapman lands, Palo Alta gr, S. Agua Dulce, n offset Texon Austin, dr 6510 ft. Wellington Oil Co. & Pan American Prod. Co.'s Clara Driscoll Sevier 1-A, Wm. Gamble sur, se of Clara Driscoll field, dr 4948 ft.

REAL COUNTY—Sun Oil Co.'s Dietert & Oppenheimer 1, sec 7, GWT&P RR sur, 20 mi nw Leaky, set 16 in csg 760 ft.

REFUGIO COUNTY—Josey &Bruton's M. F. Lambert 3, 466 ft nl, center el and wl blk 50, Swisher sur, 1 mi w Tomoconnor prod, dr 2450 ft. Tidewater Oil Co.'s Landgrof 1, 220-ac tr, J. Collyer sur, n of Hynes Bay, dr 6235 ft. Windsor Oil Co.'s G. W. Bissett 1, John Crockett sur, 1 mi nw of Tivoli, lcn.

SAN PATRICIO COUNTY—Callaway-Crosby & Porter's White Point Dev. Co. 1, 438-ac tr, Seguin sur 4 and 5, ab 247, White Point, td 6510 ft, sd td 4914 ft, install flow valve. Eleanor Oil Co.'s Wm. Kline 1, lot 5, blk "C" Coleman-Fulton Pasture Co. subd, 2½ mi se Gregory, ds stuck 6800 ft; W. W. Toland 1, 8000 ft n Kline 1, lot 15, blk A, Coleman-Fulton Pasture subd, 2½ mi e Gregory, dk and sd. Hooper & Rutherford, Inc.'s J. D. Willis 1, Gregory area, T. T. Williamson sur, e offset to Eleanor's Kline 1, dr 5630 ft.

STARR COUNTY—Howard Bass' Hayden et al 1 s½ blk 4, sur 47, porc 80, 5½ mi ne Rio Grande City, dr 1536 ft. J. H. Browers' E. C. Saenz 1, sur 363, abnd 150 ft. Barbara Oil Co.'s W. M. Pardue 1, 1168-ac tr, El Javali gr, 3½ mi w Cuevitas field, dr 1250 ft. F. Davenport & Slick Urschel's T. B. Slick Est. 1, sec 485, 20 mi ne Rio Grande City, 4912 ft, ru to dd. South Coast Oil Corp.'s Isabel S. Lopez 1, lot 11, sh 29-B, porc 80, 10 mi n Rio Grande City, dr 2800 ft. Sun Oil Co.'s J. F. Orr 1, Por 103, Juris of Mier, M. Gonzales sur, 4¼ mi s Cuevitas field, ru.

TRAVIS COUNTY—W. B. Bottinfield et al's P. C. Wells Est. 1, J. Harper and J. B. Kourk sur, ¼ mi se Manda field, abnd 908 ft, serpentine.

VICTORIA COUNTY—Magnolia Pet. Co.'s Willie Beck 1, 132.8-ac tr, T. N. O. sur 1, 4½ mi nw Telferner, dr 340 ft. Plymouth Oil Co.'s J. J. Welder 1, 6371.9-ac tr, S. Belding sur, ab 141, 7 mi e Nursery, ds stuck 6590 ft, trying to recover; R. H. Welder 1, 6371.9-ac lse, F. H. & M. G. RR sur 15, 9 mi n Nursery, near Dewitt county line, dst 5641-60 ft recovered 20 ft oil and mud, 225 lbs 12 min, coring deeper. Portilla Drilling Co.'s P. H. Welder 6, Felipe Dimmitt sur, Hughes, abnd below 5000 ft, closed well.

WEBB COUNTY—French Oil Corp.'s Daniel C. Garcia 1, sur 1121, sp. Ivan Howard et al's Frost Nat'l Bank 2, sur 595, 5 mi w Mirando City, abnd 1921 ft; Frost Nat'l Bank 3, 33 ft nl and el sec 475, lcn. Lundell Producing Corp.'s Zaragosa Lopez 1, sec 731, 1 mi se Lopez field, abnd 2368 ft. Mid-Continent Pet. Corp. & Oklahoma Co. of Tex., Inc.'s E. T. Laubscher 1, sec 1394, 7 mi nw Webb, cored sand 2979-89 ft, running dst. H. E. Nessley's A. M. Bruni 1, sur 449, 3 mi s Killam extension to Cole field, 8 mi sw Bruni, coring 3010 ft. Wilcox O&G Corp.'s Puig Bros. 1, sec 9, Loma Blanca Pasture of Joaquin Galan gr, sur 2182 and 2183, sp.

WILLIAMSON COUNTY—H. F. Goff's H. W. Kunze 1, 75-ac tr, J. J. Liendo sur, sd 1330 ft. L. D. House et al's Millie Stewart 1, 151-ac tr, M. De la Villa sur, 11 mi e Bartlett, ru and sd.

ZAPATA COUNTY—B. M. Alexander Jr.'s Fee 1, 250-ac lse, 5 mi n Lopeno, lcn. W. C. Bob's J. M. G. Martinez 1, blk 22, W. R. Duke subd, Randado gr, 1 mi w Charco Redondo field, sd 365 ft. Gilcrease Oil Co.'s Antonio Trevino et al 1, blk 5, Bode subd, porc 2 and 3, 17 mi w Comitas field, abnd 3010 ft.

ZAVALLA COUNTY—H. F. Wilcox's T. J. Gillam 1, sw¼ blk A-2, GWT&T Ry. sur, 6 mi ne Batesville, dr water well.

TEXAS GULF COAST

AUSTIN COUNTY—W. H. Mitchell's Fenner 1, J. Fitzgibbons sur, sd 3416 ft.

BRAZORIA COUNTY—Beaty, Bowles & Borsodie's Truska 1, Algoa prospect, H. & T. B. sur No. 6, dr sandy shale 6291 ft.

BURLESON COUNTY—Red Bank Oil Co.'s Grann 1, Chriesman area, E. Sante sur, dr lime 5994 ft.

CHAMBERS COUNTY—Glenn H. McCarthy's Kirby Pet. Co. 1, n of Cotton Lake, Chambers County School Land sur, abn 6543 ft. Sun's Acom 1, Seabreeze prospect, T&NO sur, sec 128, making gas and distillate at 8190 ft; same operator's White Estate 2, Seabreeze prospect, T&NO sur, sec 128, waiting on casing at 886.9 ft.

COLORADO COUNTY—Sterling's South 1, Garwood prospect, I&GN sur No. 41, tested salt water 6037 ft.

FT. BEND COUNTY — Sloan & Zook's Brown 1, Pilant Lake prospect, Barrett & Harris sur, dr shale 5871 ft.

HARDIN COUNTY—Republic-Houston Oil Co.'s Brooks Fee 2, relief well, J. W. Brooks sur, dr in sdtr hole 3684 ft. same operator's Brooks 3, Silsbee area, J. W. Brooks sur, dr shale 1580 ft.

HARRIS COUNTY—D. B. Cherry et al's Dodger 1, Epsom Downs area, J. T. Harrell sur, sd 1646 ft. Geo. Lawrence et al's Zapp 1, Bammel area, J. Farwell sur, cemented back from 3047 ft.

JEFFERSON COUNTY—Sun's Broussard 2, Labelle area, W. B. Burton sur, dr shale 6761 ft.

MATAGORDA COUNTY—Hammond Exploration Co.'s Croker 1, South Bay City area, E. Hall sur, dr shale 6906 ft. Strake Pet. Corp.'s Sargent 1, Poole Ranch area, L. E. Parker sur, dr shale 5898 ft. Sun's Craig 2, Hawkinsville area, J. Williams sur, dr salt 1528 ft. Tiettes & Harris's Pierce Estate 1, Blessing prospect, J. W. E. Wallace sur, sd at 7723 ft.

MONTGOMERY COUNTY—W. W. Chapman's Thomas Foster 1, Willis area, D. Pevehouse sur, dr clay 65 ft.

TYLER COUNTY—Republic-Houston Oil Co.'s Hurd Fee 1, se of Spurger field, Norman Hurd sur, dr shale 5380 ft.

WALKER COUNTY—Page & Hartman's Carey Land and Dev. Co. 1, e of Dodge, D. McDonald sur, ru and sd. Roswell Oil Co.'s Osborne 1, Bath Community, J. Jordan sur, sd 267 ft.

WASHINGTON COUNTY—Sun's Lauter 1, Clay Creek field, N. Clay sur, testing at 7468 ft.

WHARTON COUNTY — P. B. Watson's Sweet 1, Magnet area, Smith & McKenzie sur, reaming at 3000 ft. Felmont's General Mitchell 1, Spanish Camp prospect, D. Wade sur, dr salt water sand 7842 ft. Shell's Seydler 1, Southeast Wharton prospect, F. Biggam sur, fsh 4944 ft.

WYOMING

ALBANY COUNTY—California Co.'s Vallie G. Bath 1, ne sw 1-16n-76w, dr 1973 ft. Hal Blakeman's Chappel 1, cne nw 33-21n-76w, dr 1640 ft.

BIG HORN COUNTY—J. W. Bales' Zeisman 1, csw sw 23-49n-89w, dr 955 ft.

CARBON COUNTY—General Petroleum Corporation's Union Pacific 1, sw sw sw 5-19n-83w, sg at 5030-60 ft. with mud cuttings. One hr. test. Medicine Bow Oil Co.'s Hintze-Government 1, cne se 18-22n-78w, set 10-in csg at 1763 ft.

GOSHEN COUNTY — Ohio Oil Co.'s Joseph A. Waggoner 1, cne ne 14-28n-63w, dr 2660 ft.

LARAMIE COUNTY—Amerada Petroleum Corporation's Morton 1, csw sw 13-13n-68w, dr. 7300 ft.

NIOBRARA COUNTY — Adams-Louisiana Co.'s A. L. Spaugh 1, cnw ne 18-35n-65w, dr in red sandstone at 4456 ft. Adams-Louisiana Co. and H. V. Elwell's Sam Joss 1, cs se nw, dr 1000 ft.

PARK COUNTY—General Petroleum Corporation's Government 1, nw nw nw 33-47n-100w, dr 3021 ft.

This Week with the Industry's EQUIPMENT SUPPLIERS

N. H. Keeling Appointed Goodrich Promotion Manager

N. H. Keeling has been appointed manager of retail sales promotion of The B. F. Goodrich Company, it is announced by P. C. Handerson, director of advertising and publicity.

Keeling comes to his new post after having served as manager of the Buffalo district of the company since 1933. He entered the rubber industry in 1915, and previous to his appointment as Buffalo district manager had been in charge of special sales promotion work and district advertising manager in the Dallas district.

National Tank Made Armco Distributors

National Tank Company, Tulsa, Oklahoma, has been appointed exclusive distributors of Armco surface casing in Oklahoma, Kansas, Texas, Arkansas, Louisiana, and New Mexico, by American Rolling Mill Company. National Tank has branches in each of these states.

A. M. Byers Announces Several Promotions

Effective November 2 several promotions were made in the sales department of A. M. Byers Company, Pittsburgh, according to M. J. Czarniecki, vice president in charge of sales.

George B. Cushing has been made manager of sales promotion. He came with A. M. Byers Company in 1928 to organize and head the present advertising department, and subsequently, in 1931, organized a technical promotion group now known as the Engineering Service Department.

B. D. Landes, who has been in the technical group since its inception, has been appointed manager of the engineering service department.

T. C. Winans, who has been in the advertising department since 1930, has been appointed advertising manager.

Both the manager of the engineering service department and the advertising manager become a part of the newly formed sales promotion group headed by Cushing.

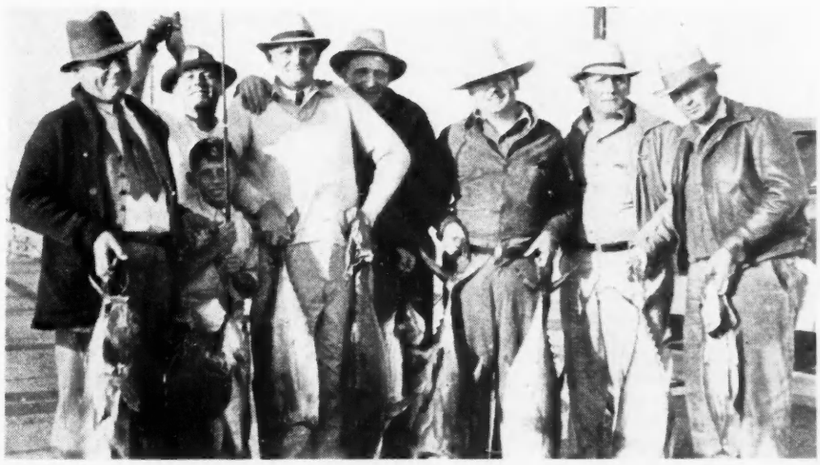
R. H. Gardner, formerly of the Washington office of A. M. Byers Company, has been appointed manager of pipe sales, and will take over all sales management duties in connection with wrought iron and steel tubular products.

Harnischfeger Appoints Salditt Vice President

The Harnischfeger Corporation of Milwaukee announces the appointment of Frederick Salditt as vice president. Salditt has been with the Harnischfeger Corporation for over 13 years, during which time he has worked in every department of the organization. As export manager, he has traveled extensively in foreign markets representing the entire line of Harnischfeger products, including excavators, overhead cranes, hoists, welders, motors, and generators. He is a mechanical engineer, a graduate of the Technical University of Darmstadt, Germany. In addition to his duties as vice president, he will continue to retain supervision of foreign operations.

Dow Chemical Opens Chicago Branch Office

Dow Chemical Company, Midland, Michigan, will open a Chicago office on November 16 in the Field Building, 135 South LaSalle Street. Wilson I. Doan, for 13 years manager of the St. Louis office, has been appointed to head the Chicago branch organization. With him will be K. M. Wildes, who has been associated with the company for eight years.



Back from a fishing trip to Catalina Island off the coast of California are these: (from left to right P. W. Pleasant, M. E. Tedford, Wesley Patterson, Jr., F. A. Emmons, W. L. Patterson, Max E. Landry, E. W. Patterson and O. C. Slavens. All are with Lacy Oil Tool Company of Los Angeles except Emmons and Landry who are with Foote Bros. Gear & Machine Corporation. The fish are tuna.

H. A. KOOP

Koop at New Iberia for Nowery J. Smith Company

Nowery J. Smith Supply Company, Houston, announces the appointment of H. A. Koop as district manager at New Iberia, Louisiana. Koop was formerly with Republic Supply Company of California, and Standard Supply & Hardware Company, of New Orleans. Nowery J. Smith Supply Company has erected a warehouse at New Iberia to handle tanks, oil and gas separators, derricks, pipe, valves and fittings, and to serve as a working center for the company's erection service in the district.

Anderson Patent Claims are Upheld

Judge Paul J. McCormick in the District Court of the United States for the Southern District of California, Central Division, on October 21, 1936, ruled that Patent No. 1,770,224 held by Alexander Anderson, Inc., was a pioneer and generic invention. This was in a suit known as No. Equity 735-M (consolidated cause), filed by Alexander Anderson, Inc., against Eastman Oil Well Survey Company of California, Eastman Oil Tool Company, Eastman Instrument Company and H. John Eastman.

A permanent and perpetual injunction was issued restraining and enjoining the defendants from manufacturing, using, vending, offering for sale, leasing or renting, or advertising any bore hole directional apparatus or methods of orientation described in the "conclusions of the court." This enjoined the defendants from infringing claims Nos. 1, 2, 3, 4, 5, 6, 8, 12, 13, 14 or 18 of the United States Letters Patent No. 1,770,224.

The decree continues "That the defendants furnish the plaintiff with an account of profits accrued to the defendants, and each of them, resulting from said infringements; that an account of plaintiff's damages resulting from said infringement be taken and stated, and that plaintiff have judgment for damages and profits so found."

Squeaks from the Bull Wheel

Low I. Q.

"Are you acquainted with any members of the jury?"

"Yes sir, with more than half of them."

"Are you willing to swear that you know more than half of them?"

"If it comes to that, Mr. Attorney, I'm willing to swear I know more than all of them put together."

Willing to Wait

Jones was a bootmaker. By hard saving he had managed to send his son Billy to a good school.

One afternoon Billy came into the shop. "Father," he demanded, "I want $1.25 to go to the theater."

"What!" cried Jones. "Do you realize that I've got to sole and heel three pairs of shoes to make $1.25?"

Billy sat down comfortably in a chair. "All right, father, I'll wait."

Heckler Heckled

An eloquent politician was interrupted by a man in the crowd, who would shout, "Liar!"

After about the twentieth repetition, the speaker paused and fixed his eye on his tormentor. "If the gentleman who persists in interrupting," he said, "will be good enough to tell us his name, instead of merely shouting out his profession, I am sure we shall all be pleased to make his acquaintance."

Logical

"Do you think stocks will go up or down?" a man asked a big industrial magnate in the hope of getting a good tip.

"Yes," was the magnate's answer. "I'm sure they will. They never stand still for very long and they can't go sidewise."

Typical

"Is Quiggle what you would call a typical American?"

"Yes; he likes baseball, is buying an auto on time, has his home mortgaged for more than it is worth, pays alimony and has got seven different kinds of loans from the government."

Would Open a Bank

A tramp applied to a gentleman for a few pennies to buy some bread.

"Can't you go into any business that is more profitable than this?" he asked.

"I'd like to open a bank if I could only get the tools," answered the tramp.

Cat-Egorical

John and George, small sons of a Baptist minister, after listening to one of their father's sermons, decided that they must baptize their family of cats. The kittens made no objection. One by one they were put in a big tub of water.

But when it came to the mother cat, she rebelled—and fought—and scratched—until at last John remarked:

"Just sprinkle her, George, and let her go to hell."

Little Chemical Tragedies

Bobby, finding life a bore,
Drank some H_2SO_4;
His father, being an M. D.,
Gave him $CaCo_3$.
Bobby's neutralized, 'tis true;
But he's full of CO_2.

Archie needed calomel;
Archie now is through.
For what he thought HgCl
Was $HgCl_2$.

Point of View

"It all depends on the point of view," he said, reflectively.

"What do you mean?" she asked.

"Well, by way of illustration," he answered, "there's Mrs. Jones next door, who sings all day long. Looking at it from one point of view, we say, 'Happy woman!' and from another, 'Unhappy neighbors!'"

Exchange

A little girl sitting in church watching a wedding, suddenly exclaimed:

"Mummy, has the lady changed her mind?"

"What do you mean?" the mother asked.

"Why," replied the child, "she went up the aisle with one man and came back with another."

Sarcasm

He: "I'll be tickled if we find a gas station soon, the gas is running low."

She: "I suppose I'll be tickled if we don't."

Oh, Girls!

Brunette: "So you let him drive out in the country and park?"

Blonde: "I do like fun."

Brunette: "Yeah, that's my weakness, too."

What It's For

"Lady, don't you know this a safety zone?"

"Don't be silly! Of course, I know; that's why I drove in here."

Doctor in Trouble

"So the doctor's trial marriage has been found out?"

"Yes, and he's been arrested!"

"What's the charge?"

"Practicing without a license."

Quite a Trick

Teacher: "Now if I lay three eggs here and five eggs here, how many eggs will I have?"

Pupil: "I don't think you can do it."

Antique Help

He: "How about some old-fashioned loving?"

She: "All right, I'll call grandma down for you."

Who's Kicking?

"Is the night nurse giving you proper attention?"

"Not exactly, but I'm perfectly satisfied."

"I don't think you rememer me. I'm Mr. Simpson, the undertaker."

"Of course," said John, "I believe you undertook my Uncle Charlie."

OIL COMPANY

PAYROLL FORMS

FOR

THE FEDERAL SOCIAL SECURITY ACT

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208	EMPLOYMENT RECORD AND HISTORY CARD WITH SEMI-MONTHLY WAGE RECORD
209	EMPLOYMENT RECORD AND HISTORY CARD WITH WEEKLY WAGE RECORD
215	INDIVIDUAL SEMI-MONTHLY TIME SHEET WITH TAX DEDUCTIONS
216	INDIVIDUAL MONTHLY TIME SHEET WITH TAX DEDUCTIONS
217	PAYROLL SUMMARY WITH EMPLOYEE AND EMPLOYER TAX DEDUCTIONS

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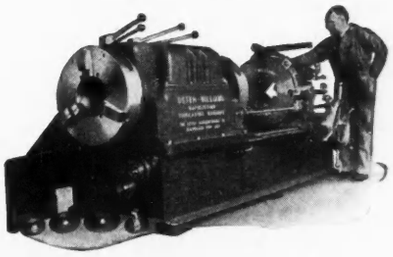

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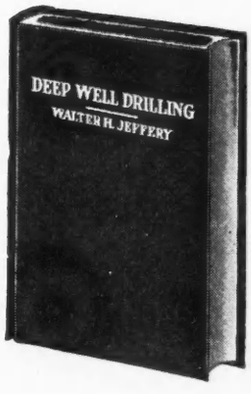

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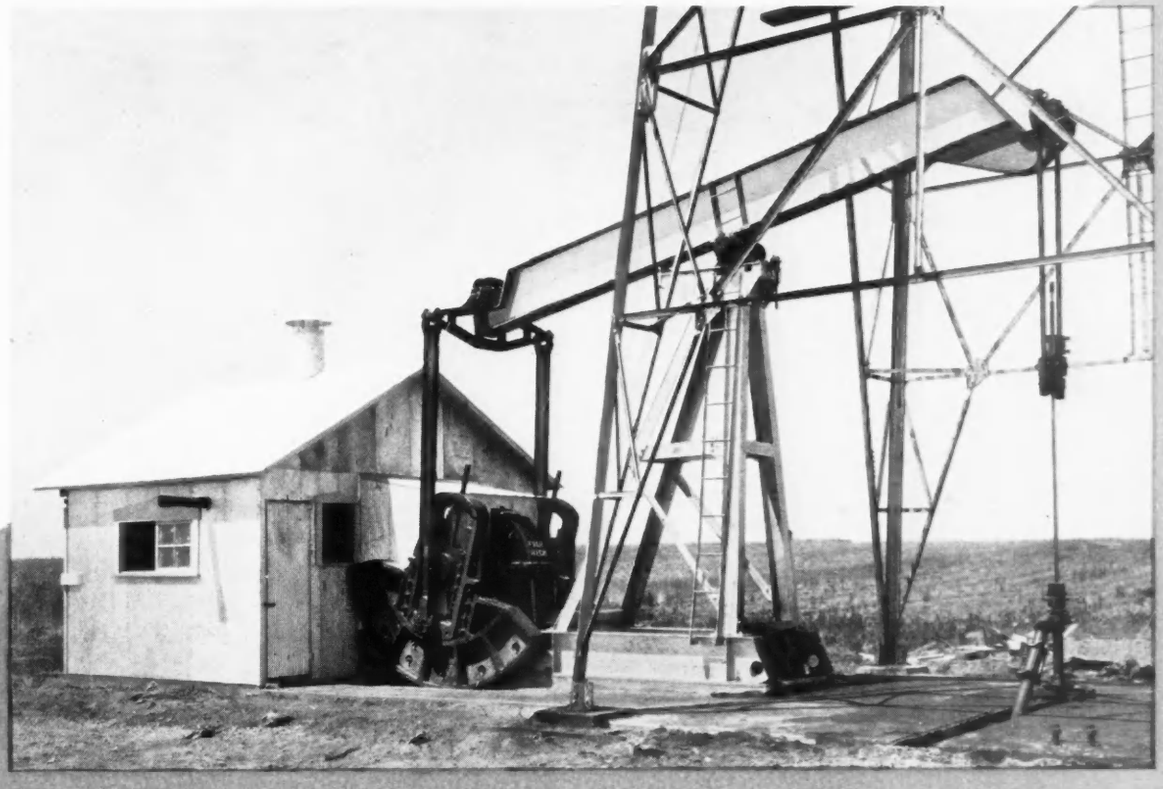

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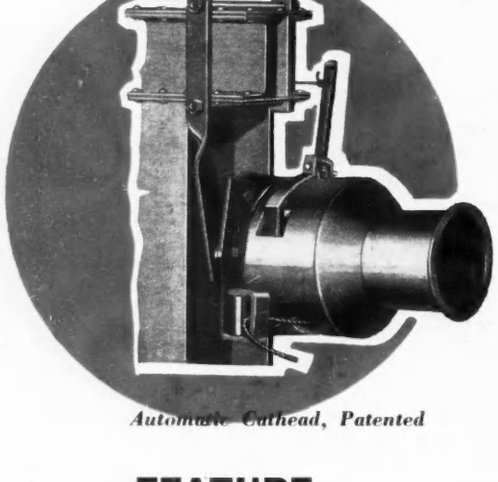

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